Quality of Caregiver-Child Interaction for Infants and Toddlers (Q-CCIIT): A Review of the Literature

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BACKGROUND AND PURPOSE

This literature review is one of several components of the Measurement Development: Quality of Caregiver-Child Interaction for Infants and Toddlers (Q-CCIIT) project, funded by the Office of Head Start (OHS) within the Administration for Children and Families (ACF), U.S. Department of Health and Human Services (DHHS), and with involvement of staff from the Office of Planning, Research, and Evaluation (OPRE/ACF/DHHS). The main purpose of the Q-CCIIT project is to develop a new measure to assess the quality of caregiver-child interactions within varied nonparental care settings for infants and toddlers. Specifically, the new quality measure will be appropriate for use in center-based and family child care settings, as well as in single- and mixed-age classrooms. Furthermore, the measure should be appropriate for use with diverse populations, such as children with disabilities and children whose home language is not English.

There were several motivations for the Q-CCIIT project, including the 2007 Head Start legislation requiring Head Start and Early Head Start programs to use "scientifically based measures" that support classroom instructional practices and program evaluation. The selected measures should be "high-quality research-based measures that have been demonstrated to assist with the purposes for which they were devised, . . . developmentally, linguistically, and culturally appropriate for the population served, . . . [as well as] valid and reliable."[1] Another related motivation was the apparent paucity of extant quality measures that have strong psychometric properties and that focus on the particular aspects of quality within caregiver-child interactions that uniquely support the development of infants and toddlers.

The Q-CCIIT project includes activities that build upon each other. The steps include:

1. Form a technical work group of national experts with in-depth knowledge of research, policy, and practice related to infant and toddler development and care environments.
2. Conduct a targeted review of the existing literature to assess the state of the measurement field related to child-adult interaction and quality of care settings for infants and toddlers.
3. Construct a measurement framework that is informed by the results of the literature review and the expertise of the technical work group members. As part of this effort, use the literature review and technical work group to identify and select potential validation measures.
4. Select items to be piloted as part of the new Q-CCIIT measure.
5. Collect data to demonstrate the psychometric soundness of the new measure. Data will be collected in three phases:
    a. Phase I is a pretest, which will include focus groups to aid in final item selection.
    b. Phase II is a pilot test of the Q-CCIIT measure with 120 classrooms in four geographic locations.
    c. Phase III is a psychometric field test with more than 400 classrooms across 10 geographic regions that will examine both test-retest reliability and convergent validity.

[1] Please see section 641A of the 2007 Head Start Reauthorization: http://www.govtrack.us/congress/billtext.xpd?bill=h110-1429.

In addition, child outcome data will be collected concurrently during the field test and at a 6-month follow-up to examine predictive validity of the new Q-CCIIT measure.

6. Develop a detailed sustainability plan to ensure that the early childhood education field and potential users know about the measure and what is required to administer it and to provide supports for the widespread and appropriate use of the measure.

The literature review presented here is one of the foundational activities of the Q-CCIIT project. A review of previous work on both parent-child interactions and of quality measures used in early care settings serving infants and toddlers is important to ensure that the Q-CCIIT project is developing a measure that (1) captures all the key constructs of caregiver-child interaction that the field has determined are important for children's development during infancy and toddlerhood, and (2) fills important gaps that exist in current quality measurement options. A review of the literature provides information about how the field has conceptualized supportive interactions between caring adults (both parents and early childhood caregivers) and children during the early years of life. The findings of the literature review are intended to further refine a research-based conceptual model for the Q-CCIIT project.

A review of the research literature can help with the design of the new measure by identifying how interactions between caring adults and very young children are being operationalized and measured in the field, the training that has been provided to those administering the measure, and the extent to which existing measures of interactions between adults and children are related to child outcomes, either concurrently or longitudinally. Such a review permits analysis of the strength of the associations between interactions and child outcomes across studies. Similarly, a review of extant measures of child care quality can help identify strengths and limitations of different approaches to administering an interaction measure within diverse early care and education settings. Finally, a review of existing quality measures appropriate for use in settings serving infants and toddlers can help identify measures that might serve to validate the newly developed Q-CCIIT measure.

In sum, this literature review has five main purposes:

1. To confirm and refine, if necessary, the research-based conceptual model for the Q-CCIIT project.
2. To identify key constructs, measures, and methodologies used to examine the quality of adult-child interactions during infancy and toddlerhood.
3. To evaluate the degree to which measures of caregiver-child interaction and measures of child care quality capture important features of quality.
4. To examine the degree to which extant measures are related to child outcomes.
5. To identify candidate measures for validation of the new Q-CCIIT measure.[2]

Organization of This Report

In the next section, we provide an overview of the research-based conceptual model that guides the Q-CCIIT project. We provide support from the literature for the critical components of the

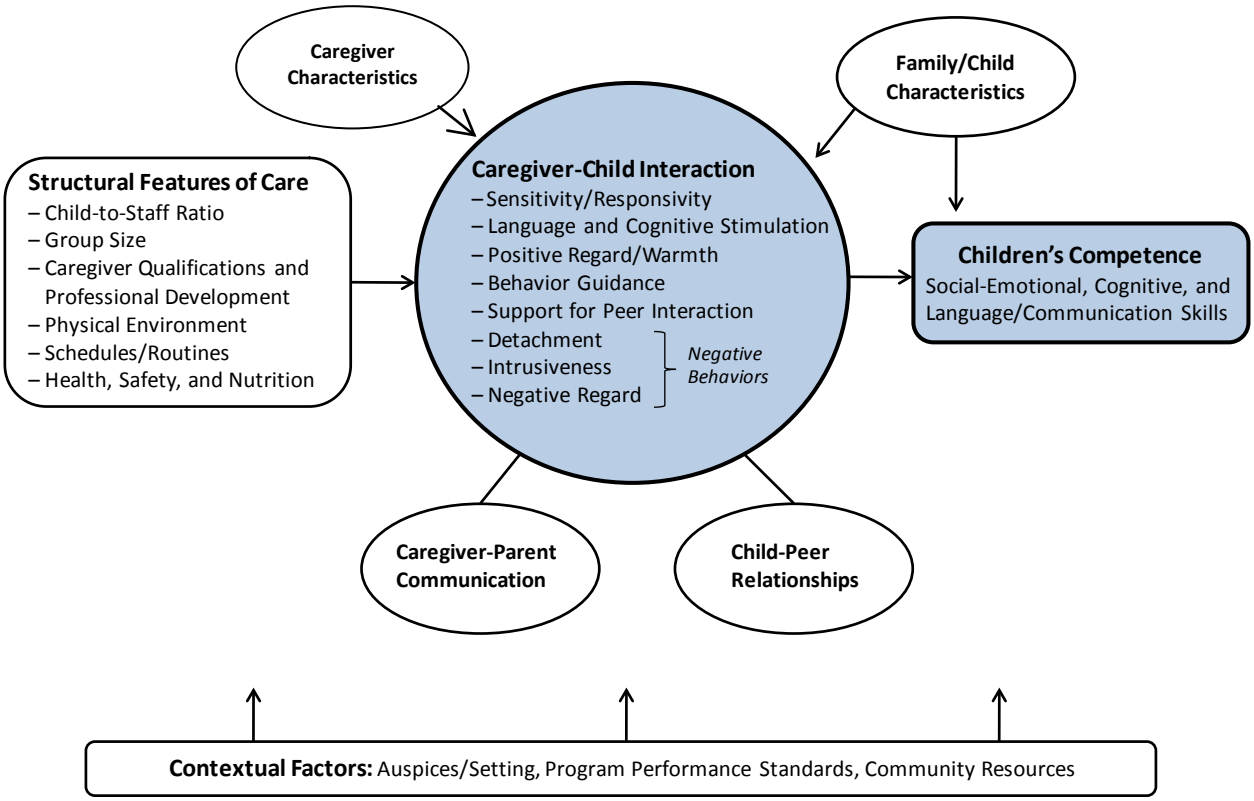
[2] The focus of this report is on the first four of the five purposes of the literature review task. The strongest candidates for validation measures for the new Q-CCIIT measure were discussed at the January 2011 Technical Working Group (TWG) Meeting. Please see the TWG Meeting summary for further information.

conceptual model. In the following section, we describe the methodological approach to conducting the literature and measures review, including the literature search and selection criteria. The next section summarizes the findings of the review, and the final sections address limitations and implications for the development of the new measure of caregiver-child interaction for infants and toddlers.

OVERVIEW OF THE RESEARCH- BASED CONCEPTUAL MODEL FOR INFANT/TODDLER QUALITY OF CARE

Figure 1 presents the research-based conceptual model for the Q-CCIIT project. The project focuses on the portions of the figure shaded in blue: the relationship between caregiver-child interactions during infancy and toddlerhood and children's competence, as measured concurrently or longitudinally by their social-emotional, cognitive, and language/communication development. However, the model acknowledges the additional influences of the *general context of development* (e.g., the type of care setting a child is in, and available resources for supporting quality care, such as the presence of program performance standards, a career lattice for early childhood care providers, and/or the existence of a quality rating and improvement system); *structural features of quality care* (e.g., child-to-staff ratio, group size, continuity of care); *characteristics of the family and caregiver* (e.g., educational attainment); *quality of the relationship between the caregiver and parent* (e.g., the quality of parent-caregiver communication); and *quality of the relationships among peers* as influencing the type and quality of interactions between caregiver and child and, ultimately, children's competence. Furthermore, the model posits that characteristics of the family and child (e.g., child temperament, disability status, home language) will have a direct, as well as indirect, effect on children's competence. In addition, the developmental level of the child in care may have an effect on caregiver-child interactions. For example, infants who are mobile are more able to access the caregiver to have their needs met or to initiate interactions with both caregivers and peers (Ruff & Rothbart, 1996). Furthermore, early use of language and strong problem-solving skills also have the potential to influence interactions (Burchinal, Roberts, Nabors, & Bryant, 2006).

Figure 1. Q- CCIIT Research- Based Conceptual Model for Infant- Toddler Quality of Care



Constructs of Caregiver- Child Interactions During Infancy and Toddlerhood

Looking more closely at the constructs that represent quality caregiver-child interactions for infants and toddlers, we see that the model posits five positive behaviors and three negative behaviors that characterize the caregiver-child interaction. The positive constructs are *sensitivity/responsivity, language and cognitive stimulation, positive regard/warmth, behavior guidance, and support for peer interactions.* The negative constructs are *detachment, intrusiveness*, and *negative regard.* The research literature provides evidence to support how each of these constructs is critical to the overall quality of caregiver-child interactions during infancy and toddlerhood, as well as their important roles in influencing child outcomes (Kelly & Barnard, 2000). For example, Brooks-Gunn, Berlin, and Fuligni (2000) draw attention to the associations between both parent-child and teacher-child relationships and child outcomes. Specifically, they note that parental emotional support, especially sensitivity, is a major dimension contributing to secure infant-parent attachment, as well as to emotional and social competence of the child (for more information also see Ainsworth, Blehar, Waters, & Wall, 1978; Belsky & Cassidy, 1994; Thompson, 1998). In addition, greater caregiver sensitivity to children during infancy and toddlerhood is directly associated with higher complexity of peer play (Howes, 1997). Cassidy and Shaver (2008) also emphasize the relations among early attachment, emotional supportiveness, encouragement, meshing, attentiveness, positive affect, praise, and non-intrusiveness

and, later, attachment security.[3] Dodici, Draper, and Peterson (2003) have found that measures of child language, parent language, emotional tone, joint attention, parental guidance, and parental responsivity are associated with the development of children's early literacy skills. One goal of this literature review is to determine whether there are additional or different key constructs that the literature indicates should be included in the definition and operationalization of caregiver-child interactions for infants and toddlers.

We turn now to a summary of the results of the review of the literature on caregiver-child interactions.

REVIEW OF EXISTING CAREGIVER- CHILD INTERACTION AND QUALITY MEASURES

This literature review draws on two main bodies of evidence: (1) the literature on dyadic parent-child interactions in infancy and toddlerhood that tends to come from an attachment perspective and (2) the literature on quality of care settings that focuses on more global or structural features of quality. Next, we describe the procedures we used to review the literature on caregiver-child interactions and measures of caregiver-child interactions, as well as measures of child care quality appropriate for use in care settings for infants and toddlers.

Methodology

Search Procedures for a Review of the Literature

This literature review focuses on empirical findings from studies in early care and education. Studies from peer-reviewed journal publications, book chapters, and government reports were included in the review. Literature was found through comprehensive searches on academic research databases, including Psychology & Behavioral Sciences Collection, Social Sciences Abstracts, PsycINFO from the American Psychological Association (APA), SocINDEX through the EBSCO Host Database, JSTOR, Medline, Ovid, internet web searches, and suggestions from ACF and Mathematica staff.

The study team used a list of constructs based on the conceptual model for this project (see list below), combined with the words "infant" and "toddler," to narrow the search of the databases to studies, interventions, or measures that examined the parent-child, caregiver-child, caregiver-infant, or caregiver-toddler interaction or relationship. All variants of these terms were included in the searches (e.g., a search using "responsiv*" would yield results that included "responsive," "responsiveness," and "responsivity"). The internet searches were prioritized by relevance, beginning with articles that had the best fit with the search terms. We examined reference lists to find other relevant articles. When using these search terms in various combinations through the databases, the study team identified several thousand citations. After reviewing these abstracts, we selected 111 articles for screening based on the criteria that the articles provided some evidence of an association between the quality of the caregiver-child interaction and child outcomes.

[3] Much of the literature on interactions between caring adults and infants/toddlers has its roots in the attachment literature, which typically focused on parent-child interactions. We address the extent to which the research paradigms of this literature are applicable to the study of quality interactions in nonparental care settings in the section on implications for the development of the Q-CCIIT measure.

Constructs Used in Literature Review[a]
Parent-Child Interaction
Caregiver-Child Interaction
Outcomes
Measurement
Sensitivity
Responsiveness
Language
Cognitive Stimulation
Positive Regard
Warmth
Behavior Guidance
Support for Peer Interaction
Detachment
Intrusiveness
Negative Regard
Style

[a]Note: All search terms were used in various combinations. The terms "infant" and "toddler" were also added to narrow the electronic searches.

Inclusion/Exclusion Criteria for the Literature Search

After we identified articles for further screening, we reviewed the abstracts and articles more thoroughly to determine whether the article met the inclusion criteria for addition to a summary table of literature (see tables in Appendix A). The inclusion criteria were:

- The article must have been published in a peer-reviewed journal (or as a government report) no earlier than 2000. In addition, we reviewed handbook chapters and seminal articles from earlier than 2000[4] (see Appendix C).
- The article must contain an observed parent-child or caregiver-child interaction measured when the child was age 3 or younger.
- The article must have a sample size of at least 20 dyads. In studies where the unit of analysis is the classroom or the teacher, a sample size of 30 was required; if the study examined multiple dyads within the classroom, a sample of 10 classrooms was sufficient for inclusion provided the 20-dyad criterion was met.
- The article must provide some evidence of an association between the measured interaction and concurrent or longitudinal child outcomes. The child outcomes could be relational (e.g., attachment status).

There were several exclusion criteria. Dissertations and case studies were not included in the literature review. In addition, any study that used a measure of the parent-child interaction where the parent behavior was heavily scripted and only the child behavior was coded (e.g., the Strange Situation) was excluded.

The literature review focused on normative relationships. However, the developmental psychopathology literature was also included to get a detailed description of a measure (e.g.,

[4] Seminal articles were selected based on references in reviews of research or the recommendation of experts. Several reviews of research in attachment and child-caregiver interactions were updated within the past decade. See the list of recent handbook chapters in the reference list of the literature reviewed in Appendix C.

including discriminant analysis to distinguish interactions including depressed and nondepressed mothers) and to determine whether the measure of interaction was sensitive to change by implementing a clinical intervention.

Of the 111 articles screened, 54 met these criteria for more in-depth consideration for inclusion in the literature review.

We created a summary table to ensure that the same key pieces of information were collected from each article that was reviewed in depth and to help summarize findings across the studies. The table was designed to capture information on three aspects of the study and measure: (1) the basic study and measure characteristics (which include the characteristics of the sample, the name of the interaction measure, the elements of caregiver-child interaction examined, and the procedure for the use of the measure, including whether the interaction was coded live or video recorded, the level of structure of the interaction [i.e., whether the caregiver was instructed to perform specific actions or the observation was naturalistic], and the scoring system used to code the interaction); (2) rater and setting information (which includes information on how raters were trained to use the measure, what level of reliability/agreement on scoring was required, and where the measure was used); and (3) findings (which include associations among the interaction measure and child outcomes, mediators/moderators, and other factors influencing the study and its findings). The constructs of the caregiver-child interaction examined in each article were recorded in the summary table using the terminology the authors used in their article.

As the articles were reviewed more thoroughly and added to the summary table, some articles that had previously met inclusion criteria were eliminated. For example, some articles focused on a child's responses to scripted parent behaviors, and some articles did not present an association between the observed caregiver-child interaction and child outcomes. We also eliminated some studies to reduce the repetition of information about a single interaction measure that appeared often in the literature (e.g., the HOME). We decided to include articles featuring the same measure as in another study only if the article presented new information (i.e., used larger or more diverse samples or examined a variety of child outcomes in relation to the interaction measure). In addition, we did not carry out an exhaustive search of international data on caregiver-child interactions, but studies that met inclusion criteria from the literature search that contained international samples were tabled separately from those containing domestic samples (see Appendix A).

Of the 54 articles that met the criteria for more in-depth review, 46 remained in the summary table of background literature on caregiver-child interactions presented in Appendix A (35 articles containing U.S. samples and 11 articles containing international samples). All 54 articles that met the original screening criteria are included in the reference list for the literature review (see Appendix C).

Procedure for Review of Existing Measures

In addition to reviewing the parent-child and caregiver-child interaction literature, the study team reviewed the existing setting quality and interaction measures related to infants and toddlers. Measures that contained elements of caregiver-child interaction were identified from four sources: (1) the literature review outlined above, (2) a review of *Quality in Early Childhood Care and Education Settings: A Compendium of Measures, Second Edition* (Halle, Vick Whittaker, & Anderson, 2010), (3) a review of several major review articles and handbook chapters on parent-child interaction and caregiver-child interaction with children ages 0 to 3 (Bornstein, 2006; Brooks-Gunn et al., 2000; Cassidy & Shaver, 2008; Clark, Tluczek, & Gallagher, 2004; Farran, Clark, & Ray, 1990; Gilkerson &

Stott, 2000; Kelly & Barnard, 2000; Lamb & Ahnert, 2006; Miron, Lewis, & Zeanah, 2009; Oppenheim & Koren-Karie, 2009), and (4) a review of materials provided by Mathematica and ACF staff on parent-child coding schemes collected for other projects. This review was also heavily informed by a previous review of quality measures for infants and toddlers conducted by Child Trends' researchers and reported in Sandstrom, Moodie, and Halle (2011).

Information about the identified measures of caregiver-child interaction (from the literature review) and quality measures used in settings caring for infants and toddlers that contain some measure of caregiver-child interaction are summarized in a table in Appendix B. Appendix B contains 17 measures or coding schemes identified for caregiver-child interactions (many of these focus on the parent-child interaction) and 18 measures of child care quality that are used in settings that care for infants and toddlers and that include some measurement of caregiver-child interaction. The information summarized in Appendix B includes the type of observation made of the caregiver-child interaction, the constructs of the caregiver-child interaction addressed by the measure (see Table 1), the type(s) of setting(s) in which the measure is used, the age ranges within infancy and toddlerhood for which the measure is appropriate, special populations for which the measure is appropriate, the purposes for which the measure can be used, and psychometric information about the measure.

Psychometric information for each measure noted in Appendix B came from disparate sources, including the literature summarized in Appendix A, the quality measures compendium (Halle et al., 2010), and various handbook and review chapters cited above. Consequently, the level of detail provided in Appendix B about the psychometric properties of measures varies due to the source of this information. In some instances, we contacted measure developers directly to provide additional information about their measure for reporting in this summary table (e.g., to confirm the interaction constructs covered by the measure or the settings in which the measure could be used).

Caregiver-Child Interaction Constructs

The constructs of the caregiver-child interaction that we examined come from the conceptual model for the Q-CCIIT study and were confirmed and extended by the literature review conducted and summarized in Appendix A. Table 1 provides definitions of each construct, as well as examples from several measures. We determined whether a measure covered each construct by reviewing (1) the articles from our literature review (using the terminology provided by the authors), (2) *Quality in Early Childhood Care and Education Settings: A Compendium of Measures, Second Edition* (Halle et al., 2010), and (3) the quality measures themselves. Even if only one item in a measure addressed the construct, the measure received credit for covering that construct.

Different researchers at Child Trends entered information into the summary table for the literature review (Appendix A) and verified that information.

Table 1. Definitions and Examples of Caregiver- Child Interaction Constructs[5]

Interaction Construct/Definition	Examples
Positive Interaction Constructs	
Sensitivity/Responsiveness: Responding to the needs of individual children and acknowledging children's feelings and thoughts	"Provider is attentive and responsive to the children" (APFCCH). "Provider regularly responds contingently to children's questions and queries in ways that support children's activity" (CHELLO). "Teaching staff is flexible and responsive in interaction with children" (CDPES). "Teacher responds to infant's physical gestures" (APECP).
Language & Cognitive Stimulation: Providing opportunities for children to develop language through conversation and providing opportunities for children to develop cognitive skills through activities	"Provider regularly encourages children's verbal interactions by asking questions, encouraging elaborations, and supporting continual exchanges "(CHELLO). "Adds to children's attempts to dialogue; adds words and explanations to talk" (CCIS). "Staff talk with children about ideas related to their play (for example, bring in concepts such as near-far, fast-slow for younger children; ask children to tell about building project or dramatic play)" (ECERS-R).
Support for Peer Interaction: Providing support for and prompting children to interact with one another	"Encourages children to exhibit pro-social behavior, e.g. sharing, helping" (CIS). "Teacher teaches children about sharing, taking turns, and cooperating with each other, through structured discussion or in everyday situations" (QUEST). "Staff facilitates positive peer interactions among all children" (ITERS-R).
Positive Regard/Warmth: Positive interactions that are individualized	"Verbal interactions with children are positive" (CDPES). "Provider is warm and nurturing with the children" (APFCCH). "Caregiver shows affection to each child, including gentle touch, kind words, special looks (QUEST).
Positive Affect: Positive emotional responses by child or caregiver	"Provider expresses positive feelings toward children (laughing and smiling)" (CHELLO). "Children appear to be happy" (APECP). "Focus child was smiling/laughing" (C-COS).
Reciprocity: Multiple responsive exchanges between a caregiver and a child; can be verbal, motoric, or affective	"Teacher engages children in laughter and smiling through verbal exchanges and/or playful games and activities" (APECP). "Staff have many turn-taking conversations with children (for example, imitate infant sounds in a back-and-forth 'baby conversation'" (ITERS-R). "There is a natural flow in the exchange of information that encourages children to engage in back and forth exchanges with the teacher" (CLASS).
Mutuality: Caregiver and child playing/working together	"Caregiver plays interactively with children" (QUEST). "The teacher spends most of her time actively involved with children during free play and planned activities and consistently expands children's involvement. During free play and planned activities, the teacher moves around the room playing with and talking to the children" (CLASS).

[5] Note: These examples are drawn from the literature and measures the Child Trends team reviewed. Because the goal was to be inclusive, examples may not fit a technical definition of the construct.

Interaction Construct/Definition	Examples
Joint Attention: Caregiver and child focusing together on a single object or activity	"In a joint attention episode, both members of a dyad are simultaneously focused on an object or set of objects, while maintaining awareness of the other member's parallel focus" (Markus, Mundy, Morales, Delgado, & Yale, 2000, p. 303). "The amount of time the parent and infant/toddler were looking at/interacting with the same object" (Dodici et al., 2003, p. 127). "Staff engage in educational interaction with . . . individual children" (ECERS-R Revised). "Provider spends quiet, one-on-one time with children" (APECP). "Provider looks at and/or reads book with children daily." "Children are consistently focused on and engaged in free play and planned activities" (CLASS).
Positive or Negative Interaction Construct	
Behavior Regulatory Style/Guidance: Providing behavioral guidelines and prompting desired behaviors; disciplinary styles or parenting styles that help regulate behaviors; the absence of positive behavior guidance may result in overly permissive parenting; in this same construct, negative behavior guidance (such as controlling parenting) may also be measured	"Provider sets clear expectations, and establishes positive, constructive relationships with adults and older children" or "provider sets vague expectations about rules and . . . may use physical action to resolve conflict" (CHELLO). "Directions are positively worded ('Feet belong on the floor'), not just restrictions ('Don't climb on the table')" or "when children misbehave, they are handled abruptly or harshly" (CCIS). "Positive methods of discipline used effectively" or "discipline is either so strict that children are punished or restricted or so lax that there is little order or control" (ITERS-R).
Negative Interaction Constructs	
Detachment: Demonstrating an inability to emotionally connect with one another; disengaged	"Seems distant or detached from the children" (CIS). "Detachment/disengagement" (ORCE). "Predominant focus child/caregiver tone is detached" (CCAT-R).
Intrusiveness: Interrupting the child's activities rather than supporting the child's engagement and exploration of the environment	"The teacher is rigid, inflexible, and controlling in his/her plans and/or rarely 'goes with the flow' of children's ideas; most classroom activities are teacher-driven" (CLASS). "Intrusiveness" (ORCE).
Negative Regard: Negative interactions that are targeted toward another	"Provider's manner may seem harsh or punitive" (CHELLO). "Seems unnecessarily harsh when scolding" (CIS). "Most staff-child interaction is negative" (ECERS-R Revised).
Negative Affect: Negative emotional responses during an interaction	"The teacher consistently displays . . . negative affect" (CLASS). "Predominant focus child tone is upset/crying" (CCAT-R). "Depressive affect" (CCIS).

Summary of Findings

The review of the literature summarized here is a selective review of the literature on measures of adult-child interactions in infancy and toddlerhood. The review focused on literature published since 2000, supplemented by reviews of seminal articles and handbook chapters from prior years. While international studies were not excluded from the review, they were summarized separately from studies of U.S. samples, and the focus of our summary of findings is on data from U.S. samples. The review also relies heavily on a recent compendium of quality measures (Halle et al., 2010).

In addition, the constructs identified in the literature summarized here were based on the terminology the authors used in the published articles. Review of quality measures was based on the language of measures developers as supplied in measures manuals, measures profiles in the compendium, personal communications, and/or by review of the measure itself. All information summarized in this section of the literature review is also represented in the summary tables in Appendix A and Appendix B of this report.

Refining the Q-CCIIT Conceptual Model

Based on the review of the literature, we found a wide range of terminology used to describe the discrete constructs of parent-child or caregiver-child interactions. However, many of the terms found in the literature could fit within the list of constructs noted in the initial Q-CCIIT conceptual model (see Figure 1). Nevertheless, the literature review identified several additional constructs that seemed distinct enough to warrant being added to the conceptual model. They included positive and negative affect, reciprocity, mutuality, and joint attention.

In addition, the range of parenting behaviors captured in interactions seemed to warrant expanding the construct called "behavior guidance" to capture both positive and negative forms of behavior regulation. The new term used to capture the full spectrum of behavior regulation techniques noted by the authors of the articles reviewed, from positive to neutral to negative, was behavior regulatory style/guidance. Examples of positive terminology related to this construct include "supportiveness"; neutral terminology includes "parental guidance," "maternal structuring," and "involvement of mother"; and negative terminology includes "power assertion" and "negative-overbearing engagement." The use of neutral terminology often signaled that the construct was coded along a continuum from positive to negative, or from more to less. However, at times, this construct was scored based on its presence or absence.

We also used the reviews of the handbook chapters to confirm and expand the conceptual model for this study. The study team used the handbook chapters to search for additional interaction and quality measures and additional constructs of the caregiver-child interaction that had not been identified in the initial iteration of the Q-CCIIT conceptual model. The review of these resources served mainly to confirm that the conceptual model had been successful in identifying the constructs that have been used to define caregiver-child interactions in the literature. However, the review of the handbook chapters did help to confirm the decision to include joint attention and mutuality as distinct constructs that should be included in the Q-CCIIT model (Cassidy & Shaver, 2008; Clark et al., 2004; Dodici et al., 2003; Gilkerson & Stott, 2000; Kelly & Barnard, 2000; Miron et al., 2009).

Summary of Key Findings at the Level of the Measure

The review of the literature revealed that nearly half (16 out of 35) of the reviewed U.S. studies measured the caregiver-child interaction with a unique, author-developed observational measure or coding scheme instead of a published, validated measure (see Appendix A). Unique coding schemes for a modified Three-Box or Three-Bag Procedure (developed in the NICHD Study of Early Child Care; see Vandell , 1979a and 1979b and NICHD Early Child Care Research Network, 1999a and 1999b) were especially common in the literature.

Whether the measure was an existing measure or one newly developed by researchers, most caregiver-child interaction measures that our review captured use video-recording of a semistructured caregiver-child interaction (24 of the 35 articles with U.S. samples reviewed in

Appendix A are video-recorded interactions, and 11 of the 17 caregiver-child interaction measures noted in Appendix B are video-recorded; 12 of the 17 caregiver-child interaction measures noted in Appendix B are semistructured). The video recordings were later coded by trained researchers and, in some instances, multiple researchers coded the same interaction to determine inter-rater reliability. Some caregiver-child relationship measures include both unstructured and semistructured activities (e.g., diapering/feeding activities, plus a play episode with a standardized set of toys). In contrast, all the measures of child care setting quality use live observations of unstructured interactions to code quality of the caregiver-child interaction in care settings (18 quality measures noted in Appendix B).

Measures of caregiver-child interactions tend to be developed to capture dyadic parent-child interactions, whereas measures of child care setting quality tend to be developed to capture overall quality in the child care setting. To the extent the latter focus on caregiver-child interactions, they do not tend to focus on dyadic relationships with a target child.

Another major distinction between the caregiver-child interaction measures and the setting quality measures is the settings in which the measures are most often used. Caregiver-child interaction measures (mainly parent-child interaction measures) are used to capture interactions in the child's home (13 of the 17 caregiver-child measures in Appendix B) and also often in a clinical or laboratory setting (8 of the 17 caregiver-child measures in Appendix B). In contrast, the quality measures are designed to be used in center-based child care settings (13 of the 18 quality measures in Appendix B) or home-based care settings (either family child care homes or family, friend, or neighbor care—12 of the 18 quality measures in Appendix B).

Most caregiver-child interaction measures and child care quality measures that include caregiver-child interaction appear to be appropriate for use with children from birth through age 3. Among the caregiver-child interaction measures, 7 of the 17 noted in Appendix B are appropriate for the entire age span (while the intended age range for one of the child-caregiver interactions is not known); among the child care quality measures, 13 of the 18 are appropriate across the entire age span. To the extent that there is specialization in the measures in infancy and toddlerhood, only the CLASS Toddler and the PITC PARS make specific distinctions about the quality of caregiver-child interactions within infancy versus toddlerhood.

Summary of Key Findings at the Level of the Construct

The most prevalent constructs covered by caregiver-child interaction measures, as well as quality measures that include measurement of caregiver-child interaction, include sensitivity/responsiveness, language and cognitive stimulation, positive regard, positive affect, and negative regard.

The least prevalent constructs covered by caregiver-child interaction measures, as well as quality measures that include measurement of caregiver-child interaction, include reciprocity, joint attention, detachment, and negative affect.

Constructs that were more commonly measured within quality measures than caregiver-child interaction measures include support for peer interaction, mutuality, and behavior regulatory styles/guidance.

It makes sense that support for peer interaction was not a construct represented in the caregiver-child interaction literature, given that these interaction measures tended to focus

exclusively on the parent-child dyad, and, therefore, multiple children were not present during the observation.

Constructs Examined for Infants versus Toddlers

Few measures distinguish constructs and measurement items that are appropriate for infants versus toddlers (as mentioned above, the exceptions are the PITC PARS and CLASS Toddler). Measures need to be examined at the item level to determine the distinctions in how constructs are being represented differently for interactions with infants versus toddlers. This will require a more fine-tuned analysis than is presented in the appendix tables. At present, we do not have all the caregiver-child interaction measures available for review at the item level. Some of this information (e.g., PITC PARS) is currently proprietary and not available for broad dissemination. Even measures that identify specific constructs of the caregiver-child interaction at the item level may not have predictive validity findings for those specific items. Predictive validity may exist at the measure or subscale level only. Nevertheless, the constructs that were examined in the two measures that were specifically focused on measuring interactions with toddlers included sensitivity/responsiveness, language and cognitive stimulation, positive/negative regard, positive/negative affect, mutuality, joint attention, behavior regulatory style/guidance, and intrusiveness.

Constructs Examined with Dual Language Learners

Three studies identified their samples as speaking Spanish at home (Hurtado, Marchman, & Fernald, 2008; Ispa et al., 2004; Shannon, Tamis-LeMonda, & Cabrera, 2006). Constructs examined with children whose home language was Spanish include language and communication, responsiveness, negative regard, positive affect, negative affect, warmth, and intrusiveness. However, no studies allowed analyses comparing their sample by home language or language proficiency status.

Constructs Examined with Children with Disabilities

Our review identified five articles (Hauser-Cram, Warfield, Shonkoff, & Krauss, 2001; Poehlmann & Fiese, 2001; Steelman, Assel, Swank, Smith, & Landry, 2002; Wachtel & Carter, 2008; Warren & Simmens, 2005) that addressed caregiver-child interactions with children with special needs (e.g., autism, low birth weight, pre-term, or at risk for anxiety/depression). Constructs examined with children with special needs include maternal warmth, maternal sensitivity, positive regard, positive affect, supportive engagement, cognitive engagement, and disengagement. No studies we reviewed allowed for a comparison of interactions between children with and without a disability or special need.

Construct Measurement by Type of Setting

As noted above, the caregiver-child interaction measures identified in the literature were generally designed to be used in the child's home or in a clinical/laboratory setting, whereas the setting quality measures were all designed to be used in center-based or home-based child care settings, or both. Many of the setting quality measures did not specify in which center-based settings the measure could be used. Likewise, it was often unclear whether a home-based measure was appropriate for family, friend and neighbor care in addition to family child care homes. Few of the quality measures included in this review examined specific interaction constructs. The disparate sources and level of information in the measures summarized in the appendices make it difficult to compare coverage of constructs by setting.

Summary of Key Findings at the Level of Scoring

Many of the measures examined in the literature review used a scale or rubric to rate particular interaction constructs. Some measures were scored on the presence or absence of an interaction construct. For example, "affect regulation" was scored as present or absent in an author-developed measure (Braungart-Rieker, Garwood, Powers, & Wang, 2001). Within the scales and rubrics that studies used to rate particular interaction constructs, response categories may note the frequency of a specified behavior or the quality of that aspect of the interaction. Alternatively, some response categories place two constructs on each end of a single continuum (e.g., positive and negative affect were often placed along a single continuum). Researchers sometimes recoded ratings into another format, such as recoding continuous ratings into dichotomous ratings or performing factor analysis to combine individual ratings into a composite score or global rating score.

Summary of Key Findings Regarding Relations to Child Outcomes

All the summarized studies showed an association between the caregiver-child interaction and child outcomes as stipulated by the criteria for inclusion in the literature review. Of the 35 U.S. studies we examined, 13 predicted children's cognitive or language outcomes (see Appendix A). Social-emotional outcomes (including relational outcomes such as attachment status) were predicted in 15 studies. Five studies predicted both cognitive outcomes and social-emotional outcomes.

Looking more closely at the level of the specific constructs of caregiver-child interaction and their relation to child outcomes, we see a range of strengths of association with children's cognitive, language, and social-emotional competencies.

Sensitivity/Responsiveness

Sensitivity and responsiveness was identified as a construct of caregiver-child interactions in 18 of the 35 studies reviewed (see Appendix A). Of these 18 instances, 10 did not report that sensitivity/responsiveness predicted to any child outcomes. In all 10 instances, the study did not look at sensitivity/responsiveness as a discrete construct, but rather looked at this construct in conjunction with other constructs or simply did not report findings that related this particular construct to child outcomes. There were only two instances of prediction to cognitive or language outcomes.[6] Specifically, there was one instance of sensitivity predicting to children's cognitive outcomes, as measured by the Bayley Mental Developmental Index (MDI), r = .35 (Feldman, Eidelman, & Rotenberg, 2004) and one instance of responsiveness predicting to children's language outcomes, as measured by the Early Language Inventory, MacArthur Communicative Development Inventories (Tamis-LeMonda, Bornstein, & Baumwell, 2001). There were seven instances of sensitivity/responsiveness predicting to social-emotional outcomes; four of these instances had attachment security as the outcome being predicted. Of the remaining three instances, one study found a negative relationship between maternal sensitivity and boys'—but not girls'—anxiety/depression at ages 2 and 3, as measured by the Child Behavior Checklist, r = -.24 and -.27, respectively (Warren & Simmens, 2005); another study found sensitivity related to a parent report of the child's temperament, as measured by the Infant Behavior Questionnaire, Revised (IBQ-R), r = .30 (Gartstein, Crawford, & Robertson, 2008); and a third study found that father's responsive-didactic engagement predicted children's social-communication scores at 8 and 16 months, as

[6] All findings reported here are significant at the $p < .05$ level or better.

measured by the C-CARES within the same interaction, r = .41 and .22, respectively (Shannon et al., 2006).

Language and Cognitive Stimulation

Language and cognitive stimulation was mentioned 14 times in the literature we reviewed, but only two reports noted this particular construct as being related to child outcomes (Fuligni, W-J, & Brooks-Gunn, 2004; Hurtado et al., 2008). Specifically, Fuligni and colleagues (2004) found parental verbal skills as measured by the IT-HOME to be positively related to children's vocabulary skills as measured by the PPVT, r = .08; this same paper also reported that supports for language and learning as measured by the IT-HOME was related to children's aggressive behavior as measured by the CBCL, r = -.09, .13, .18, .15. One additional study found positive relationships between maternal child-directed speech and children's attention during a look-while-listening task both concurrently and longitudinally (Hurtado et al., 2008).

Support for Peer Interaction

Of the 35 U.S. studies of caregiver-child interaction we reviewed, none included support for peer interaction as a predictor of child outcomes.

Positive Regard/Warmth

Positive regard/warmth was mentioned 13 times in the literature we reviewed; four of these instances predicted social-emotional outcomes for the child from parental/maternal warmth, and four instances predicted children's cognitive outcomes. For example, Fuligni and colleagues (2004) found a relationship between parental warmth as measured by the IT-HOME and children's aggressive behavior as measured by the CBCL, r = -.08, and -.11. Fuligni and colleagues (2004) also found a relationship between parental warmth and cognitive outcomes as measured by the PPVT, r = .17, .15, .11, and as measured by the Bayley MDI, r = .08. Another study by Ispa et al. (2004) reported partial correlations that showed maternal warmth at 15 months (as measured by the Three-Bag procedure) inversely predicted children's negativity at 25 months (as measured by the CBCL) partial r = -.11, positively predicted children's engagement at 25 months (as measured by the CBCL) partial r = .16, and positively predicted dyadic mutuality at 25 months (as measured by the Parent-Child Dysfunctional Interaction subscale of the Parenting Stress Index) partial r =.18. A final study showed maternal warmth at 12 months (as measured by a researcher-developed measure) was directly related to children's social functioning at 54 months (Steelman et al., 2002).

Positive and Negative Affect

Within the 35 articles, eight instances mentioned "affect" or "emotional tone" as a construct, but only one study indicated that this construct uniquely predicted to child outcomes. Specifically, Forbes, Cohn, Allen, and Lewinsohn (2004) found that parents' positive affect at 6 months predicted infants' positive affect at 6 months within the same interaction. Affect was often considered in conjunction with other constructs in analyses or was simply not mentioned in the findings of a study in relation to child outcomes.

Reciprocity

Reciprocity was examined in two studies, but always in conjunction with another aspect of caregiver-child interactions. In one instance, reciprocity was examined as one construct with

synchrony (Gartstein et al., 2008); in the other, it was measured in conjunction with positive affect (Poehlmann & Fiese, 2001). Higher maternal synchrony/reciprocity was associated with lower levels of sustained/focused attention for infants as measured by a parent report of child temperament (Infant-Behavior Questionnaire Revised, IBQ-R), $\beta = -0.312$ (Gartstein et al., 2008). Poehlmann and Fiese (2001) found that higher scores on a measure of reciprocity and positive affect mediated the relationship between neonatal risk and child outcomes on the Bayley MDI, $t = -2.10$; $R^2 = .19$; Model $F = 3.60$.

Mutuality

Mutuality was examined in two studies and was found to predict to social-emotional outcomes in both instances. Children who had been in dyads high in observed "mutually responsive orientation" with their mothers at 23 months scored higher on three conscience measure games at age 46 months: throwing game partial $r = .34$, ring toss partial $r = .32$, and moral cognition partial $r = -.23$ (Kochanska & Murray, 2000). Mutually responsive orientation was also found to have a positive effect on moral conduct through a mediated path (promoting the child's enjoyment of interactions with mother and enhancing committed compliance) (Kochanska, Forman, Aksan, & Dunbar, 2005). Mutually responsive orientation at 9 to 22 months was positively correlated with 45-month moral emotion ($\beta = .20$), and 56-month conduct ($\beta = .22$) and moral cognition ($\beta = .27$). Mutually responsive orientation predicted three mediators at 33 months: children's enjoyment of interactions with mothers ($\beta = .20$), children's committed compliance ($\beta = .22$), and mother's power assertion ($\beta = -.31$).

Joint Attention

Joint attention was mentioned in two studies but was only shown to predict to child outcomes in one of the two instances.[7] Specifically, joint attention (as measured by a researcher-developed tool) positively predicted children's cognitive outcomes, as measured by the Bayley Scales of Infant Development II, $r = .56$ (Markus, Mundy, Morales, Delgardo, & Yale, 2000).

Behavior Regulatory Style/Guidance

The study team found seven instances of behavior regulatory style/guidance in the literature review. Of the seven, four showed a relation to social-emotional outcomes, and one showed a relation to cognitive outcomes; two instances did not report a relation to child outcomes. For example, one study found an association between maternal power assertion and children's moral conduct, $r = -.36$ (Kochanska et al., 2005), and another study found that infants with high social communication scores had less overbearing fathers at both 8 and 16 months (Shannon et al., 2006). A study by Ryan, Martin, and Brooks-Gunn (2006) found that children with two supportive parents (as measured in the Three-Bag procedure) had better cognitive scores (as measured by the Bayley Scales of Infant Development II) than children with one supportive parent (either gender), and that children with at least one supportive parent out-performed children with two unsupportive parents.

[7] As noted elsewhere in this report, joint attention, at times, is an element of subscales that are called by a different name. In these cases, the separate predictive power of a measure of joint attention on child outcomes cannot be determined.

Detachment

Of five studies in our review that included detachment as an aspect of caregiver-child interactions, none reported detachment predicting to child outcomes.

Intrusiveness

Only one study out of eight in our review that examined intrusiveness as an aspect of caregiver-child interactions reported an association between intrusiveness and child outcomes. Specifically, Ispa et al. (2004) reported partial correlations that showed a positive relationship between maternal intrusiveness during the Three-Bag procedure at 15 months and child negativity (as measured by the CBCL) at 25 months, partial r = .14. For European American dyads only, there was an inverse relationship between maternal intrusiveness at 15 months and child engagement at 25 months, partial r = -.11.

Negative Regard

Fuligni et al. (2004) was the only study that reported on negative regard predicting to child outcomes. Specifically, they found that parental lack of hostility, as measured by the IT-HOME, was related to the Aggressive Behavior Subscale of the CBCL in three different samples: r = -.08, -.10, and .08, respectively.

Child Care Quality Measures

A review of the information within the Quality Measures Compendium revealed that few quality measures provide predictive validity information at the level of interaction subscales or constructs (Halle et al., 2010). An exception is the ECERS-R, which reports positive relations between the social interaction subscale and children's early number and concept development (Clifford, Reszka, & Rossbach, 2009). Several measures have specific subscales that measure the interaction quality between caregivers and infants/toddlers, but the psychometrics are usually reported at a composite level rather than at the level of the subscale. The Child Caregiver Interaction Scale (CIS) has four subscales relevant to this project (sensitivity, harshness, detachment, permissiveness), but the predictive validity of the CIS is not reported at the level of the subscales. As another example, the Observational Record of the Caregiving Environment (ORCE) codes for responsiveness and positive affect, as well as intrusiveness and promoting cognitive and social development. However, analyses that predict to outcomes are reported on the composite score on the ORCE and not on the subscales (National Institute of Child Health and Human Development Early Child Care Research Network, 2000).

In a few instances, the measures are being examined with regard to predictive validity, but results are not reported yet. For example, the Program for Infant/Toddler Care Program Assessment Rating Scale (PITC-PARS) has two subscales relevant to the current project: Subscale I (quality of caregivers' interactions with infants) and Subscale III (quality of care in areas of relationship-based care). Both of these subscales have been reported to show improved scores during the implementation of a training intervention (Kriener-Althen & Mangione, in preparation; Mangione, 2003), but these subscales have not yet been reported to predict child outcomes. Similarly, the Child Care Assessment Tool for Relatives (CCAT-R) has four constructs relevant to our model of caregiver-child interaction (support for physical development, support for cognitive development, support for language development, and support for social/emotional development), but predictive validity of the CCAT-R is currently being tested in a three-year longitudinal study of a

cohort of 3-year-olds in a family intervention program in Hawaii. It is not clear if the predictive validity will be reported at the level of the subscale/construct.

General Summary

The strength of the association between interactions and child outcomes varied widely in the literature reviewed. The varying strength of the measured associations reflects several factors, including measurement error, the number and type of covariates included in the models, the type of outcome measure examined, the sample size, and unique characteristics of the sample. The strength of association also depended, in part, on how the interactions were operationalized, measured, scored, and analyzed. Finally, because significant variation existed in the level of quantitative rigor of the studies, it was difficult to draw comparisons across studies on the strength of the association between the interaction and child outcomes. For example, some studies used correlations to show the relationship between interactions and child outcomes, while others used partial correlations, controlling for some observable characteristics when testing the association between interactions and outcomes. In addition, some studies used more sophisticated quantitative methods that take multiple covariates into account, such as multivariate regression analysis. Sometimes interactions were included in models as mediators or moderators of other relationships, such as the relation between maternal depression and child outcomes (Dawson et al., 2003). Because of the varying methodologies, it is challenging to compare the strength of the association between a particular interaction construct and child outcomes.

Nevertheless, our review of parent-child interaction measures, as well as quality measures, did uncover an interesting picture of associations between caregiver-child interactions and child outcomes. Specifically, analyses of the parent-child interaction measures indicate there are some domain-specific associations between interaction constructs and child outcomes (e.g., joint attention is related to children's cognitive outcomes whereas mutuality is related to moral conduct) but there are also several constructs that are related to both cognitive and social-emotional outcomes (e.g., sensitivity/responsiveness, cognitive and language stimulation, and behavior regulatory style/guidance). Notably, few setting quality measures provide predictive validity information at the level of interaction subscales or constructs; they generally report psychometric data at the level of a composite measure. This pattern also tends to be true of the caregiver-child interaction measures noted from our literature review. In general, even when measures have specific subscales representing unique interaction constructs, they rarely report prediction to child outcomes at the construct level. As an example, the Pediatric Infant Parent Exam (PIPE) has two constructs: level of reciprocity and positive affect. Yet the score on the total PIPE, not these individual constructs, is reported to be related to child outcomes (Poehlmann & Fiese, 2001). One explanation for this phenomenon is that "good things go together," such that even though constructs or subscales are theoretically distinct, psychometrically they function better as a single composite. This explanation assumes that the reason the individual subscales are not related to child outcomes is that more items are needed for a more reliable estimate of the specific construct. If the individual subscales are not related and the composite is, it also could suggest that good things do not always go together and that both constructs may be needed for positive child outcomes.

Limitations of the Literature Review

A discussion of the information we could glean from the literature review on the strength of association between particular interaction constructs and child outcomes leads to a more general discussion of limitations of this body of literature to inform the next phase of the Q-CCIIT project. The literature review was able to address several of its aims—namely, validating and refining the

conceptual model for the Q-CCIIT project and ensuring that the project addresses all the major constructs of caregiver-child interactions. However, this initial task of the study has limited ability to inform the most immediate next steps in the Q-CCIIT project, which are to construct a measurement framework and create items for the new Q-CCIIT measure.

A main limitation of using the existing literature to inform item selection is that there is an imprecise match between the content and the label of the interaction constructs in the literature. For example, sensitivity was often defined differently across studies or defined broadly so as to contain other constructs. In addition, factor structures that are derived from the same data are sometimes configured or labeled differently (Fuligni et al., 2004). This makes it challenging to determine the constructs that have the strongest correlations with child outcomes.

Another issue is that many different constructs in the Q-CCIIT conceptual model are sometimes represented within a single subscale that the author of the measure labels as a single construct. As an example, the Parent Child Interaction Rating Scale (PCIRS) has three constructs: supportive engagement, cognitive engagement, and disengaged (Wachtel & Carter, 2008). However, within these three constructs as identified by the authors, there are multiple constructs as identified by the Q-CCIIT conceptual model (see page 588 of Wachtel & Carter, 2008). Supportive engagement includes sensitivity, supportive presence, intrusiveness (reverse coded), promotion of autonomy, positive regard, negative regard (reverse coded), affective mutuality, and mutual enjoyment. Cognitive engagement includes stimulating cognitive development, language quality, joint attention, and reciprocal interaction. Disengagement includes flat affect, language amount (reverse coded), and detachment. Consequently, in the measures table (Appendix B), many interaction constructs, including sensitivity/responsiveness, intrusiveness, positive regard, negative regard, reciprocity, mutuality, joint attention, and detachment, are noted as addressed by the PICRS. This has implications for understanding how a particular construct, as defined by the Q-CCIIT conceptual model, predicts to child outcomes. A comprehensive comparison of the coverage of constructs across measures is needed, but it would require a more thorough examination of all existing measures at the factor level.

Finally, few studies we identified in the literature focused on diversity of the population. Often, not enough detail was provided in the sample characteristics to determine whether dual language learners were included in the sample. Analyses were not conducted separately by subgroups based on disability or home language status. Several studies were conducted with low-income populations. However, comparisons with non-low-income samples were not often presented within or across studies. Likewise, several studies were conducted with special needs children (e.g., autistic children). However, comparisons with a nonclinical sample on the same measurement tool were not available within or across studies.

Implications for the Design of the New Q- CCIIT Measure

Having articulated many of the review's limitations in fully informing the development of the new Q-CCIIT measure, we do feel that the literature review has implications for the design of a new measure of caregiver-child interactions that will be useful across setting type and for multiple purposes. In particular, this review has implications with regard to the content and methodology of a new measure. Many of the conceptual considerations described here were developed in conjunction with the Technical Working Group for the Q-CCIIT project.

Content

This review of the literature confirmed that several major categories of interaction constructs should be represented within the new measure. These include responsive caregiving (which includes elements of emotional availability, sensitivity, contingent responding, and warmth), language enhancement (which includes turn-taking and reciprocity, language stimulation, joint attention, labeling, use of questions, reading or storytelling, and encouraging the child to speak), cognitive enhancement (which includes opportunities for exploration, scaffolding, and encouraging the child to explore objects), support for self-regulation, and fostering positive peer and cross-age interaction. Negative aspects of interactions found in the literature are detachment, intrusiveness, and negative regard. To the extent possible, the new Q-CCIIT measure should attempt to capture all these aspects of caregiver-child interaction, realizing that the indicators of these components may be operationalized differently based on the age of the child, gender, or variations in cultural backgrounds.

Given the varying levels of detail provided in the literature on how researchers defined their interaction/quality constructs, the Q-CCIIT team should be precise in the definitions of constructs and provide clear anchors for the coding scheme. In addition, given that previous measures of caregiver-child interaction tend to report predictive validity based on an overall composite, the Q-CCIIT team should consider the relative importance of keeping constructs or subscales of the new measure distinct when predicting to child outcomes.

Methodology

Many interaction measures identified in this literature review focused on dyadic interactions between parents and infants/toddlers in a home-based or clinical setting. It will be important for the Q-CCIIT team to determine how the elements of measures designed to capture dyadic interaction in a more controlled setting may be translated into a dynamic setting that involves multiple children. Furthermore, the parent-child interaction measures we reviewed tended to use semistructured or structured activities for coding interactions, whereas the setting quality measures we reviewed tended to observe activities as they naturally occurred in early care settings, often with the use of a time sampling method. The Q-CCIIT team may want to consider using a combination of naturalistic observation and semistructured activities to observe the full range of interaction styles between caregivers and infants/toddlers in their care.

Furthermore, the design of the new Q-CCIIT measure will need to balance the need of capturing the general climate of the classroom with regard to caregiver-child interactions and the specific experiences of individual children within those environments. Specifically, the Q-CCIIT team will need to determine whether the new measure will observe individual children within the setting, obtain some more global measures of interaction quality, or attempt to collect some combination of the two. The team will also need to consider the benefits and limitations of video and in-vivo (live) coding. In addition, this project will need to consider what types of subgroup analyses will be possible with regard to children of different ages, genders, race/ethnicity, cultural backgrounds, and home language.

One limitation of this literature review in informing the development of the new Q-CCIIT measure was the lack of detail provided in the published literature about observer/rater characteristics, training procedures for use of the measure, and reliability on administering an interaction measure. Furthermore, limited information was provided on the characteristics of those who coded the interaction data collected (e.g., the qualifications they had, training they received). It

will be important for the Q-CCIIT team to develop detailed methodological guides for the training and use of the new measure, especially outlining the use of the measure for various purposes, for use with children of different ages or different ability levels, and for use in various settings.

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APPENDIX A

LITERATURE REVIEW SUMMARY TABLES

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
1	Adi-Japha, E. & Klein, P.S. (2009). Relations between parenting quality and cognitive performance of children experiencing varying amounts of childcare. *Child Development, 80* (3), 893-906.	Home Observation for Measurement of the Environment (HOME; Caldwell & Bradley, 1984)	Research	Mother's behavior during interaction	1,095 dyads	6 months, 15 months, 24 months, and then follow-up at 36 months; a variety of socioeconomic levels and sociocultural backgrounds; 16.6% belonged to ethnic minorities	No	No	Video observation
2	Biringen, Z., Damon, J., Grigg, W., Mone, J., Pipp-Siegel, S., Skillern, S., et al. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26* (4), 295–308.	Emotional Availability Scales (Biringen et al., 1998)	Research	Maternal sensitivity Maternal structuring Maternal nonintrusiveness Child responsiveness to mother Involvement of mother	36 dyads	12 months	No	No	Live observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
1	Adi-Japha, E. & Klein, P.S. (2009). Relations between parenting quality and cognitive performance of children experiencing varying amounts of childcare. *Child Development, 80* (3), 893-906.	Semi-structured (free play conditions)	Not reported	Home visits with the children in the sample at 6, 15, 24, and 36 months, supplemented by phone interviews every 3 months to track childcare use. Infants and mothers were videotaped in semi-structured interactions at home at 6 and 15 months, and at 24 and 36 months they were videotaped in a laboratory. The observations were conducted during two half-day visits scheduled within a 2-week interval. They also conducted visits to the childcare setting at 6, 15, 24, and 36 months for children who spent more than 10 hours/week in care.	Yes	Researcher
2	Biringen, Z., Damon, J., Grigg, W., Mone, J., Pipp-Siegel, S., Skillern, S., et al. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26* (4), 295–308.	Unstructured	Not reported	Emotional availability was scored every 15 minutes for a total of 2 hours	Yes	Researcher

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
1	Adi-Japha, E. & Klein, P.S. (2009). Relations between parenting quality and cognitive performance of children experiencing varying amounts of childcare. *Child Development, 80* (3), 893-906.	Not reported	Not reported	Home	Cognitive development: school readiness and language	The Bracken Basic Concept Scale The Reynell Developmental Language Scales
2	Biringen, Z., Damon, J., Grigg, W., Mone, J., Pipp-Siegel, S., Skillern, S., et al. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26* (4), 295–308.	Not reported	Laboratory setting: over 80% Home setting: at least 90%	Home and laboratory	Attachment	Strange Situation procedure

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
1	Adi-Japha, E. & Klein, P.S. (2009). Relations between parenting quality and cognitive performance of children experiencing varying amounts of childcare. *Child Development, 80* (3), 893-906.	1. The association between level of parenting and children's outcomes scores. 2. Association between maternal sensitivity and the HOME scores.	1. p<.05 2. r=.62	Not reported
2	Biringen, Z., Damon, J., Grigg, W., Mone, J., Pipp-Siegel, S., Skillern, S., et al. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26* (4), 295–308.	1. Emotional availability of both mother to the infant and of the infant to the mother are related to security of infant-mother attachment (this includes the constructs maternal sensitivity, maternal nonintrusiveness, child responsiveness to mother' and mother involvement)	1. Within all dimensions except for maternal nonintrusiveness, p<.01.	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
1	Adi-Japha, E. & Klein, P.S. (2009). Relations between parenting quality and cognitive performance of children experiencing varying amounts of childcare. *Child Development, 80* (3), 893-906.	Different relations were found between parenting quality (a cumulative measure of the quality of the parent-child interaction and the home environment) and cognitive outcome measures such as school readiness and receptive language for children who experienced different amounts of childcare. Associations between parenting quality and these cognitive outcomes were stronger among children who experienced medium amounts of childcare than among children who experienced high amounts of childcare, and were not weaker than among children who experienced primarily maternal care. *Medium amounts of childcare=10-32 hours/week and high amounts of childcare=32+ hours/week	Not reported	Not reported	The current study is correlational and does not allow inferences for causation. Any conclusions that may be drawn from this study should be regarded as suggestive. In addition, the study outcomes organized by amount of childcare were the only results given. The focus of this study was on the association between parenting quality and cognitive outcomes in relation to the amount of time the child spend in childcare rather than the interaction itself. For a study that uses the HOME with an international sample see: Feldman, R., & Eidelman, A. I. (2004). Parent-infant synchrony and the social-emotional development of triplets. Developmental Psychology, 40(6), 1133-1147. doi: 10.1037/0012-1649.40.6.1133
2	Biringen, Z., Damon, J., Grigg, W., Mone, J., Pipp-Siegel, S., Skillern, S., et al. (2005). Emotional availability: Differential predictions to infant attachment and kindergarten adjustment based on observation time and context. *Infant Mental Health Journal, 26* (4), 295–308.	Not reported	Not reported	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
3	Blair, C., Granger, D. A., Kivlighan, K. T., Greenberg, M. T., Hibel, L. C., Fortunato, C. K., et al. (2008). Maternal and child contributions to cortisol response to emotional arousal in young children from low-income, rural communities. Developmental Psychology, 44(4), 1095-1109.	5-point Likert scale	Research	Maternal engagement (mother's sensitivity, detachment, intrusiveness, positive regard, negative regard, animation, negative emotional reactivity)	1,292 dyads	7 months and then follow-up at 15 months; predominantly low-income	No	No	Video observation
4	Bornstein, M. H., & Tamis-LeMonda, C. S. (1989). Maternal responsiveness and cognitive development in children. In M. H. Bornstein (Ed.), New directions for child development: No 43. Maternal responsiveness: Characteristics and consequences (pp. 49-61). San Francisco: Jossey-Bass.	Not given (developed by authors)	Research	Maternal responsiveness	52 dyads; 20 dyads; 29 dyads; 24 dyads	5 months and then follow-up at 1 year; 4 months and then follow-up at 4 years; 2 to 5 months; 5 months and then follow-up at 13 months	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
3	Blair, C., Granger, D. A., Kivlighan, K. T., Greenberg, M. T., Hibel, L. C., Fortunato, C. K., et al. (2008). Maternal and child contributions to cortisol response to emotional arousal in young children from low-income, rural communities. Developmental Psychology, 44(4), 1095-1109.	Semi-structured (free-play interaction where mothers were given a set of toys and were instructed to play with the child as they normally would if they had a little free time during the day) Structured (3 procedures designed to elicit emotional reactivity: mask presentation challenge, barrier challenge, arm restraint challenge)	Children's responses to the emotion challenge tasks were recorded using second-by-second coding of emotional reactivity (3 levels: low, moderate and high negative reactivity). Mother's sensitivity, detachment, intrusiveness, positive regard, negative regard, and animation were scored with a 5-point scale with lower scores representing not at all characteristic and higher scores representing highly characteristic (free-play). Three levels of negative reactivity were coded: low, moderate, and high negative reactivity. A composite score for negative reactivity for each task was created by summing the seconds of low, moderate, and high negative reactivity and then calculating the proportion by dividing the sum of all negative reactivity scores by the total time of the task (3 emotional challenge tasks).	2-4 hours (free-play and 3 emotional challenge tasks)	No	Trained coders
4	Bornstein, M. H., & Tamis-LeMonda, C. S. (1989). Maternal responsiveness and cognitive development in children. In M. H. Bornstein (Ed.), New directions for child development: No 43. Maternal responsiveness: Characteristics and consequences (pp. 49-61). San Francisco: Jossey-Bass.	Unstructured	Coded every relevant infant visual exploration, vocalization, and distress signal and every instance and type of maternal contingent responsiveness to them, as well as whether mothers' responses co-occurred with their infants' provoking behaviors or lagged after the onset of their infants' behaviors (and, if so, by how much time).	45 minutes	No	Researcher

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
3	Blair, C., Granger, D. A., Kivlighan, K. T., Greenberg, M. T., Hibel, L. C., Fortunato, C. K., et al. (2008). Maternal and child contributions to cortisol response to emotional arousal in young children from low-income, rural communities. Developmental Psychology, 44(4), 1095-1109.	Not reported	.94 for the masks task; .89 for the barrier task; .86 for the arm restraint task	Home	Change in salivary cortisol in response to the emotion challenge tasks	To assess changes in cortisol indicative of the child's hypothalamic-pituitary-adrenal (HPA) response to the emotion challenge tasks using paired 't' tests, 3 saliva samples were collected: a pretask baseline before administration of the challenge tasks, a sample 20 minutes after the infants' peak emotional arousal to the tasks, and a sample 40 minutes after peak arousal. Peak arousal was determined by the data collectors using clear guidelines established in the experimental protocol (crying).
4	Bornstein, M. H., & Tamis-LeMonda, C. S. (1989). Maternal responsiveness and cognitive development in children. In M. H. Bornstein (Ed.), New directions for child development: No 43. Maternal responsiveness: Characteristics and consequences (pp. 49-61). San Francisco: Jossey-Bass.	Not reported	Not reported	Home and laboratory	Cognitive development (cognitive competencies)	Infant exploration and infant vocalization

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
3	Blair, C., Granger, D. A., Kivlighan, K. T., Greenberg, M. T., Hibel, L. C., Fortunato, C. K., et al. (2008). Maternal and child contributions to cortisol response to emotional arousal in young children from low-income, rural communities. Developmental Psychology, 44(4), 1095-1109.	1. Infants reacted to the emotion challenge with an increase in cortisol from baseline to the 20-minute post-peak arousal assessment, and then exhibited a significant decline from the 20-minute to the 40-minute post-peak arousal assessment. 2. Toddlers reacted to the emotion challenge with an increase in cortisol from baseline to the 20-minute post-peak arousal assessment, and the toddlers did not exhibit a significant decline from the 20- to the 40-minute post-peak arousal assessment.	1. t(984)=-3.96, p<.01; t(879)=6.12, p<.01 2. t(686)=7.24, p<.01; t(790)=0.88	Maternal engagement was inversely related to overall level of cortisol and this relation mediated an inverse relation between social advantage (maternal age, employment status, economic sufficiency) and cortisol (strength of association not given).
4	Bornstein, M. H., & Tamis-LeMonda, C. S. (1989). Maternal responsiveness and cognitive development in children. In M. H. Bornstein (Ed.), New directions for child development: No 43. Maternal responsiveness: Characteristics and consequences (pp. 49-61). San Francisco: Jossey-Bass.	1. Responsiveness in infancy at 4 months exerts a strong effect on the development of toddlers' representational abilities at 4 years; maternal responsiveness toward infants' nondistress predicts preschoolers' cognitive competencies.	1. Responsiveness to nondistress was associated with infant vocalization r=.28 to .60. Correlation between responsiveness and representational competence .48 (p<.001).	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
3	Blair, C., Granger, D. A., Kivlighan, K. T., Greenberg, M. T., Hibel, L. C., Fortunato, C. K., et al. (2008). Maternal and child contributions to cortisol response to emotional arousal in young children from low-income, rural communities. Developmental Psychology, 44(4), 1095-1109.	Not reported	Not reported		For other studies that measure physiological outcomes with an international sample, see Albers, Riksen-Walraven, Sweep, & deWeerth (2008).
4	Bornstein, M. H., & Tamis-LeMonda, C. S. (1989). Maternal responsiveness and cognitive development in children. In M. H. Bornstein (Ed.), New directions for child development: No 43. Maternal responsiveness: Characteristics and consequences (pp. 49-61). San Francisco: Jossey-Bass.	Not reported	Not reported	Not reported	Note: The year does not meet our inclusion criteria, but this article was recommended for tabling by Sally Atkins-Burnett. While the article uses several samples, it only reports outcomes for one of the samples used.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
5	Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development, 72* (1), 252-270.	Not given (developed by authors)	Research	Parent sensitivity Infant affect Affect regulation	94 dyads	4 months,12 months and then follow-up at 13 months; primarily White and middle class	No	No	Video observation
6	Brown, G.L., Schoppe-Sullivan, S.J., Mangelsdorf, S.C., & Neff, C. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *Early Child Development and Care, 180* (1 and 2), 121-137.	Not given (developed by authors)	Research	Maternal sensitivity Paternal sensitivity	68 triads (mother, father, child families)	3.5 months and then follow-up at 12 months and 13 months	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
5	Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development, 72* (1), 252-270.	Structured (parent was instructed to play with the child to keep him/her entertained and then was instructed to sit back in the seat and refrain from making any facial or vocal expressions) Semi-structured (free play)	Sensitivity was rated on a 5-point scale every 10 seconds with higher scores representing high sensitivity. Infant affect was rated on a second-by-second basis on 7-point scales. Affect regulation was rated every 5 seconds as present or absent from the 90 second still-face episode.	4 minute warm-up free play situation and a 4.5 minute structured situation (9.5 minutes in total)	Yes	Not reported
6	Brown, G.L., Schoppe-Sullivan, S.J., Mangelsdorf, S.C., & Neff, C. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *Early Child Development and Care, 180* (1 and 2), 121-137.	Semi-structured (parents were given a set of age-appropriate toys and were instructed to interact with their infants however they normally would)	Sensitivity coded on a five-point Likert scales adapted from (Ainsworth et al., 1974, 1978)	Free play (5 minutes)	No	Trained data collector

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
5	Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development, 72* (1), 252-270.	Two coders were trained by the first author and continuously evaluated by the trainer until accuracy was acceptable (>90%). Each code then independently rated all remaining infants.	A third coder rated a randomly selected 15% subsample of infants. The intraclass correlation between pairs of coders was .90 for negative affect and .82 for positive affect (infant-mother dyads) and .88 for negative affect and .84 for positive affect (infant-father dyads).	Laboratory: large carpeted room, furnished with a couch, several chairs, and brightly decorated walls	Mother-infant attachment and father-infant attachment	Strange Situation procedure (child is classified into 1 of 4 types of attachment: secure, insecure/avoidant, insecure/resistant, or insecure/disorganized)
6	Brown, G.L., Schoppe-Sullivan, S.J., Mangelsdorf, S.C., & Neff, C. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *Early Child Development and Care, 180* (1 and 2), 121-137.	Not reported	Gamma coefficients were used to assess inter-rater reliability on a randomly selected subset of 21% of the tapes for both mothers and fathers. Gamma for mothers .93; Gamma for fathers .88. Inter-rater agreement within one scale point was 100%.	Home	Attachment security	Strange Situation procedure

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
5	Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development, 72* (1), 252-270.	1. Infant-father attachment groups were not discriminated from the 4-month factors, but infant-mother attachment groups were. Infants whose mothers were more sensitive at 4 months were more likely to be classified as secure rather than insecure in attachment with their mothers at 12 months.	1. Association between maternal sensitivity and infant-mother attachment R^2=.08	They tested the possibility that affect regulation mediates the association between maternal sensitivity and infant-mother attachment. But because infants' affect regulation does not distinguish secure from insecure infants but rather distinguishes the type of security or insecurity, the meditational model is not supported if only security status is examined as an outcome.
6	Brown, G.L., Schoppe-Sullivan, S.J., Mangelsdorf, S.C., & Neff, C. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *Early Child Development and Care, 180* (1 and 2), 121-137.	1. At 1 year of age, infant-mother and infant-father attachment security were significantly correlated with one another despite the fact that maternal and paternal sensitivity were not significantly associated at 3.5 months. 2. The only association between sensitivity and attachment that approached significance was a marginally significant correlation between 3.5 month paternal sensitivity and 13 month infant-father attachment security. Sensitivity was no longer a predictor when supportive coparenting was controlled for.	1a. Observed supportive coparenting was correlated with paternal sensitivity (.25) 1b. Infant-father attachment security was correlated with observed supportive coparenting (.31) 2. Association between paternal sensitivity and infant-father attachment (p<.05)	The main focus of the study was the relationship between coparenting and later parent-child attachment; parental senstivity is mainly used as a mediator.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
5	Braungart-Rieker, J. M., Garwood, M. M., Powers, B. P., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development, 72* (1), 252-270.	Not reported	Not reported	Not reported	
6	Brown, G.L., Schoppe-Sullivan, S.J., Mangelsdorf, S.C., & Neff, C. (2010). Observed and reported supportive coparenting as predictors of infant-mother and infant-father attachment security. *Early Child Development and Care, 180* (1 and 2), 121-137.	Child gender played the moderating role in the association between observed supportive coparenting and infant-mother attachment security. Observed supportive coparenting was positively related to infant-mother attachment security amongst families with boys, but unrelated to infant-mother attachment security amongst families with girls.	Not reported	A longer assessment of parenting behavior in a stressful context might more accurately tap into parental sensitivity than a relatively short, low-stress, free-play episode employed in this study.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
7	Burchinal, M., Vernon-Feagans, L., Cox, M., & Key Family Life Project Investigators. (2008). Cumulative social risk, parenting, and infant development in rural low-income communities. *Parenting: Science and Practice,* 8, 41-69.	Not given (developed by authors for free-play and book-reading interactions) HOME Inventory	Research	Maternal engagement (a factor including detachment, positive regard, animation, and stimulation all coded from free-play) Harshness (a factor including sensitivity, intrusiveness, and negative regard all coded from free-play) Variety of Maternal Language (coded from book-reading) Parental Warmth Access to Learning and Literacy Materials (a rescaling of three HOME subscales - Parental Responsivity, Acceptance of Child, and Learning Materials)	1,292 families	6 months, and then follow-up at 15 months; low-income; 95% European-American	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
7	Burchinal, M., Vernon-Feagans, L., Cox, M., & Key Family Life Project Investigators. (2008). Cumulative social risk, parenting, and infant development in rural low-income communities. *Parenting: Science and Practice,* 8, 41-69.	Semi-structured (interviews, questionnaires, and 10-minute free-play interaction between caregiver and child where they were given a set of toys; parent and child were also given up to 10 minutes to look at a wordless book (Baby Faces; DK Publishing, 1998) which was also videotaped and transcribed)	5-point scale with lower scores representing not at all characteristic and higher scores representing highly characteristic	2 visits; 2-3 hours each visit (at 6 and 15 months)	Yes	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
7	Burchinal, M., Vernon-Feagans, L., Cox, M., & Key Family Life Project Investigators. (2008). Cumulative social risk, parenting, and infant development in rural low-income communities. *Parenting: Science and Practice,* 8, 41-69.	Not reported	Reliability for harshness (r=.88) and sensitivity (r=.80)	Home	Cognitive skills	Bayley Scales of Infant Development (MDI)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
7	Burchinal, M., Vernon-Feagans, L., Cox, M., & Key Family Life Project Investigators. (2008). Cumulative social risk, parenting, and infant development in rural low-income communities. *Parenting: Science and Practice,* 8, 41-69.	1. The five parenting measures (maternal engagement, maternal harshness, HOME maternal warmth, HOME language and literacy, and number of different words used in storybook reading) were significantly correlated with children's cognitive skills at 6 and 15 months (r's at 6 months ranged from .11 to .22; r's at 15 months ranged from 2.23 to .23). 2. HLM models indicated that the full set of parenting measures at 6 months, as well as changes in parenting from 6 to 15 months, significantly contributed to predicting infant cognitive scores at 15 months, even when taking into account cumulative risk and demographic covariates (F(5, 1158) = 7.41 for the five parenting measures at 6 months; F(5, 1158) = 2.31 for change in parenting from 6 to 15 months).	1. p<.001 2. p<.001 for parenting at 6 months; p<.05 for change in parenting from 5 to 16 months	Parenting did not moderate the association between risk and cognitive skills at 15 months.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
7	Burchinal, M., Vernon-Feagans, L., Cox, M., & Key Family Life Project Investigators. (2008). Cumulative social risk, parenting, and infant development in rural low-income communities. *Parenting: Science and Practice,* 8, 41-69.	Age, ethnicity, region (PA vs. NC) and geographic isolation moderated the associations between cumulative risk and different aspects of parenting. HOME parental warmth and Learning and Literacy at 6 months mediates the relationship between cumuliative risk and child cognition at 15 months.	All families were from rural, low-income counties.		This study looks at the relationship between social risk and child outcomes, using parenting as a potential mediator and moderator of that relationship.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
8	Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoud, C., Pan, B.A., Kisker, E. E., Roggman, L., & Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20* (6), 958-977.	Not given (developed by authors) Home Observation for Measurement of the Environment (HOME, Caldwell & Bradley, 1984)	Research	Supportive parenting (a factor including sensitivity, cognitive stimulation, and positive regard at 14, 24, and 36 months; at pre-kindergarten, the sensitivity and postive regard scales were replaced with a single "supportiveness" scale, which was averaged with cognitive stimulation) Learning environment (a factor created from observer rating using the HOME scale; based on Fuligini et al., 2004)	1,273; all low-income	14 months, 24 months, 36 months, and then follow-up at an average age of 63 months (at kindergarten entry) Parenting data were taken from at least 3 of the 4 waves of data.	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
8	Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoud, C., Pan, B.A., Kisker, E. E., Roggman, L., & Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20* (6), 958-977.	Not reported	At 14, 24, and 36 months, supportive parenting was the average of three 7-point rating scales: sensitivity, cognitive stimulation, and positive regard (the anchor ratings are not mentioned in the article) Sensitivity and postive regard were replaced with a single "supportiveness" scaleat pre-k.	Not reported	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
8	Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoud, C., Pan, B.A., Kisker, E. E., Roggman, L., & Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20* (6), 958-977.	Not reported	Not reported	Not reported	School readiness	Receptive vocabulary (Peabody Picture Vocabulary Test-III; Dunn & Dunn, 1997) Letter-word knowledge (recognition of letters and words; Letter-Word Identification subscale of the Woodcock-johnson Tests of Achievement Revised [Woodcock & Johnson, 1990]) Observed emotional regulation (self-regulation of affect and attention during challenges tasks; Leiter-R Examiner Rating Scales [Roid & Miller, 1997]) Approaches toward learning (positive social interaction skills and behavioral dispositions toward learning; 7-item parent-report scale used in the FACES study) Behavior problems (aggressive or disruptive behavior, hyperactivity, and withdrawn types of behavior; 12-item parent-report scale used in the FACES study [ACF, 2007])

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
8	Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoud, C., Pan, B.A., Kisker, E. E., Roggman, L., & Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20* (6), 958-977.	1) A higher number of reported behavior problems pre-kindergarten was associated with lower scores on learning environment 2) More optimal approaches toward learning pre-kindergarten were associated with: a) better learning environment at 14 months b) increasingly positive learning environments in the home over time 3) Higher levels of emotion regulation pre-kindergarten were associated with: a) higher ratings of supportive parenting during play at 14 months b) increasing supportive parenting over time 4) Higher variance in vocabulary scores pre-kindergarten were associated with: a) better learning environment at 14 months b) more supportive parenting during play at 14 months c) increasingly positive learning environments in the home over time d) increasingly supportive parenting over time 5) Higher letter-word scores were associated with: a) more optimal home learning environments at 14 months b) higher supportive parenting during play at 14 months c) an improving learning environment in home over time	1 beta=-0.10, p<.05 2a) beta=0.16, p<.001 b) beta=0.08, p<.01 3a) beta=0.17, p<.001 b) beta=0.10, p<.01 4a) beta=0.20, p<.001 b) beta=0.22, p<.001 c) beta=0.12, p<.01 d) beta=0.10, p<.01 5a) beta=0.17, p<.001 b) beta=0.14, p<.001 c) beta=0.13, p<.001	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
8	Chazan-Cohen, R., Raikes, H., Brooks-Gunn, J., Ayoud, C., Pan, B.A., Kisker, E. E., Roggman, L., & Fuligni, A. S. (2009). Low-income children's school readiness: Parent contributions over the first five years. *Early Education and Development, 20* (6), 958-977.	Researchers explored whether Early Head Start participation moderated the relationship between parenting over time and child outcomes, but no moderating effects were found.	All families were low-income and were participating in the Early Head Start study.		This study also examined other aspects of parenting, including parenting stress and maternal depressive symptoms, and their effects on child outcomes.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
9	Dawson, G., Ashman, S. B., Panagiotides, H., Hessl, D., Self, J., Yamada, E., et al. (2003). Preschool outcomes of children of depressed mothers: Role of maternal behavior, contextual risk, and children's brain activity. *Child Development, 74* (4), 1158-1175.	Not given (developed by authors)	Research	Warmth Encouragement Withdrawal	124 dyads	3.5 years old, 90% of mothers were Caucasian	No	No	Video observation
10	Dishion, T. J., Shaw, D., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79* (5), 1395-1414.	Not given (developed by authors)	Research	Caregiver involvement Positive behavior support practices	731 mother-child dyads (619 remained at the two-year follow-up)	2, 3, and 4 years All families were enrolled in the Women, Infants, and Children Nutrition Program (WIC). All families had socioeconomic, family, and/or child risk factors for future behavior problems. Mother: 50% European American, 28% African American, 13% biracial, 9% other	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
9	Dawson, G., Ashman, S. B., Panagiotides, H., Hessl, D., Self, J., Yamada, E., et al. (2003). Preschool outcomes of children of depressed mothers: Role of maternal behavior, contextual risk, and children's brain activity. *Child Development, 74* (4), 1158-1175.	Structured (clean-up, gotcha game, Tinker Toy teaching task, and a waiting task) Semi-structured (free play)	Mothers' negative affect, flat affect, affection, body contact, praise, encouragement, and amount of talk were coded. Infants' aggression and noncompliance were coded. Each dimension was coded differently; for example, body contact measured the duration of mother-initiated touch during the interaction, while encouragement was coded to reflect the number of times that the mother gave positive feedback about the child's effort. (See pg. 1164-1165 for more details.)	40 minutes, one observation	No	Undergraduate assistants
10	Dishion, T. J., Shaw, D., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79* (5), 1395-1414.	Structured (series of timed tasks completed with the child by the mother and research team)	Coders used the Relationship Process Code to code the set of tasks completed by the child and caregiver and then completed a coder impressions inventory about the positive and proactive behavior support practices in the family, including parent involvement, positive behavior support (caregiver prompting and reinforcing positive child behavior), engaged parent-child interaction time, and proactive parenting.	Child is approached by adult stranger (undergraduate videographer) and then given 15 minutes for free play, followed by a 5 minute clean up task with caregiver, 5 minute delay of gratification task, four 3 minute teaching tasks with the last one completed with an alternate caregiver, 4 minute free play, 4 minute clean up task, two 2 minute presentations of inhibition-inducing toys, 20 minute meal preparation and lunch task.	No	Undergraduate students

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
9	Dawson, G., Ashman, S. B., Panagiotides, H., Hessl, D., Self, J., Yamada, E., et al. (2003). Preschool outcomes of children of depressed mothers: Role of maternal behavior, contextual risk, and children's brain activity. *Child Development, 74* (4), 1158-1175.	"Coders had little opportunity to improve reliability on these behaviors." (pg. 1164)	Inter-rater reliability was at least 80% on each of the coded behaviors (the range of agreement was between 80% and 92%)	Clinical setting	Social-emotional development Cognitive development	Parent report of child behavior problems (Child Behavior Checklist and Child Adaptive Behavior Inventory)
10	Dishion, T. J., Shaw, D., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79* (5), 1395-1414.	"Extensive training" (p.1401)	The average team Relationship Process Code percent agreement was .87.	In the home during 2.5 hour home visits	Social-emotional (behavior problems at ages 2, 3, and 4)	Mother report on externalizing measure in The Child Behavior Checklist at ages 2, 3, and 4 Mother report on the problem factor in the Eyberg Child Behavior Inventory (a 36-item measure of early childhood behavior problems and the extent to which they are a problem for the caregiver).

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
9	Dawson, G., Ashman, S. B., Panagiotides, H., Hessl, D., Self, J., Yamada, E., et al. (2003). Preschool outcomes of children of depressed mothers: Role of maternal behavior, contextual risk, and children's brain activity. *Child Development, 74* (4), 1158-1175.	The study finds that maternal depression is correlated with one construct of maternal behavior (withdrawal), but does not find that maternal behavior mediates the relationship between maternal depression and child behavior. Groups of depressed and non-depressed mothers did not differ significantly on the maternal warmth or encouragement factors.	Not reported	Mother behavior was tested as a mediator between maternal depression and child behavior problems.
10	Dishion, T. J., Shaw, D., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79* (5), 1395-1414.	1. Participation in the Family Check-Up intervention improved caregiver's positive behavior support at ages 2 and 3, which mediated improvements in early behavior problems.	1. Effect size of d=-.03, p<.05.	Caregiver's positive behavior support at ages 2 and 3 mediated the relationship between the Family Check-Up intervention and improvements in child behavior problems between ages 2 and 4.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
9	Dawson, G., Ashman, S. B., Panagiotides, H., Hessl, D., Self, J., Yamada, E., et al. (2003). Preschool outcomes of children of depressed mothers: Role of maternal behavior, contextual risk, and children's brain activity. *Child Development, 74* (4), 1158-1175.	Not reported	Maternal depression (life stress, social support, parenting stress, family conflict and marital satisfaction) was included as the predictor of child behavior problems and mother behavior was tested as a mediator of that relationship.	Not reported	Maternal behavior (and the parent-child interaction) is a mediator rather than a predictor of outcomes.
10	Dishion, T. J., Shaw, D., Connell, A., Gardner, F., Weaver, C., & Wilson, M. (2008). The family check-up with high-risk indigent families: Preventing problem behavior by increasing parents' positive behavior support in early childhood. *Child Development, 79* (5), 1395-1414.	Effects of the Family Check-Up intervention did not vary by ethnicity.	Not reported	All families had socioeconomic, family, and/or child risk factors for future behavior problems.	The study is based around participation/lack of participation in a family support services/intervention program. Participation in the Family Check-Up intervention was associated with decreased behavior problems at ages 2, 3, and 4 compared to the control group (effect sizes: d=.33 for positive behavior support and d=.23 for problem behavior). Effects were particularly strong among families that reported high levels of behavior problems at age 2 (effect size for temperamentally vulnerable children: d=.33).

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
11	Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent--child interactions and early literacy development. *Topics in Early Childhood Special Education, 23* (3), 124–136.	Parent-Infant/Toddler Interaction Coding System (PICS; Dodici & Draper, 2001)	Research	Child language Parent language Emotional tone Joint attention Parental guidance Parental responsivity	27 dyads	14, 24, and 36 months; low-income households; all families were Caucasian	No	No	Video observation
12	Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotional regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75* (6), 1774-1791.	Coding Interaction Behavioral Manual-Newborn (CIB; Feldman, 1998)	Research	Maternal sensitivity	138 dyads	Birth, 3 months, 6 months and then follow-up at 12 months	No	No	Video observation
13	Forbes, E. E., Cohn, J. F., Allen, N. B., & Lewinsohn, P. M. (2004). Infant affect during parent-infant interaction at 3 and 6 months: Differences between mothers and fathers and influence of parent history of depression. *Infancy, 5* (1), 61-84.	Based on Tronick's still-face paradigm (Tronick et al., 1978)	Research	Parent affect Parent physical play Infant affect	50 children	3 months (6 months at second time point), majority of parents were European American, one parent was part of a study on adolescent-onset depression	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
11	Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent--child interactions and early literacy development. *Topics in Early Childhood Special Education, 23* (3), 124–136.	Structured (teaching activity [stacking blocks, pointing to body parts in a book, doing puzzles], play activity [3-bag task], frustration task [child was strapped into high chair and parent was allowed to interact with child from a distance and could not take the child out of the chair])	Each item (listed in the elements column) was rated on a 5-point scale with higher numbers representing better quality.	15 minutes, 3 observations (one at 14 months, one at 24 months, one at 36 months)	No	Research assistants
12	Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotional regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75* (6), 1774-1791.	Unstructured (at birth and at 3 months, free interaction) Semi-structured (at 6 months mothers were given a basket with age-appropriate toys and were asked to play with the infant using these toys)	Four maternal behavioral categories and 1 infant category were coded and codes within each category were mutually exclusive. For each 10-second epoch, the coder selects one behavior in each category.	Mother-newborn interaction: 10 minute session Mother-infant interaction 3 months: 10 minute session Mother-infant interaction 6 months: 10 minute session	No	Graduate students
13	Forbes, E. E., Cohn, J. F., Allen, N. B., & Lewinsohn, P. M. (2004). Infant affect during parent-infant interaction at 3 and 6 months: Differences between mothers and fathers and influence of parent history of depression. *Infancy, 5* (1), 61-84.	Structured (normal interaction, peek-a-boo, the still-face interaction and a reunion) The activities were observed with the mother and the father (consecutively).	Parents' and infants' affect and behaviors were coded every 1 second in the interaction. Parents' affect was coded as one of the following mutually exclusive categories: anger, sadness, neutral, low positive, high positive, surprise, or empathy. Parent physical play was defined as whether or not the child's seat bounced. Infant expressions were coded as negative, neutral, or positive.	7 minutes	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
11	Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent--child interactions and early literacy development. *Topics in Early Childhood Special Education, 23* (3), 124–136.	Seven raters were trained	Across all tapes, 88% inter-rater reliability was reached.	Home	Cognitive development	Early literacy skills (Peabody Picture Vocabulary Test-III, Woodcock Johnson-Revised, Test of Language Development-Primary: Version 3)
12	Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotional regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75* (6), 1774-1791.	Not reported	Coders were trained to 90% agreement on all categories. Interrater reliability was computed on 25 interactions and reliability averaged 94%, intraclass r=.93.	Home and developmental laboratory	Cognitive development and symbolic play	Bayley Mental Development Index (MDI)
13	Forbes, E. E., Cohn, J. F., Allen, N. B., & Lewinsohn, P. M. (2004). Infant affect during parent-infant interaction at 3 and 6 months: Differences between mothers and fathers and influence of parent history of depression. *Infancy, 5* (1), 61-84.	Not reported	Agreement was at least 80% for different raters. Kappas were between 0.71 and 0.84 on each of the individual constructs.	Clinical setting	Social-emotional development	Infant affect was operationalized using the same coding scheme from the videos.

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
11	Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent--child interactions and early literacy development. *Topics in Early Childhood Special Education, 23* (3), 124–136.	1. The PICS score (as averaged across the 3 time points) was correlated with child outcomes as measured by the PPVT and WJ-R. 2. The average PICS (without child language) was also correlated with the PPVT and WJ-R- the authors took out the child language construct in case that aspect of the PICS was confounding the correlations. Additionally, the PICS score correlated more strongly with child literacy than the parent report measure (Stony Brook Family Reading Survey- SFRS) across all outcome measures. None of the individual activity scores predicted outcomes better than the total PICS score.	1. r=0.58 between overall PICS and PPVT, r=0.50 between overall PICS and WJ-R 2. r=0.40 between PICS without language and PPVT, r=0.40 between PICS without language and WJ-R	Not reported
12	Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotional regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75* (6), 1774-1791.	1. Maternal sensitivity at birth, 3 months, and 6 months facilitates cognitive growth at 12 months.	1. Maternal sensitivity at 12 months and infant cognitive development, r=.35.	Not reported
13	Forbes, E. E., Cohn, J. F., Allen, N. B., & Lewinsohn, P. M. (2004). Infant affect during parent-infant interaction at 3 and 6 months: Differences between mothers and fathers and influence of parent history of depression. *Infancy, 5* (1), 61-84.	Parents' positive affect at 6 months predicted infants' positive affect at 6 months.	F=16.95, p<0.001	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
11	Dodici, B. J., Draper, D. C., & Peterson, C. A. (2003). Early parent--child interactions and early literacy development. *Topics in Early Childhood Special Education, 23* (3), 124–136.	Not reported	Not reported	Limitations: Homogeneity of the sample, correlational nature of the analysis, possible intrusiveness of videotaping parent-child interactions.	
12	Feldman, R., Eidelman, A. I., & Rotenberg, N. (2004). Parenting stress, infant emotional regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development, 75* (6), 1774-1791.	Not reported	Not reported	Not reported	For other studies that use the CIB with international samples see: Feldman, R. (2010). The relational basis of adolescent adjustment: trajectories of mother-child interactive behaviors from infancy to adolescence shape adolescents' adaptation. Attachment & Human Development, 12(1-2), 121-137. Feldman, R., & Klein, P. S. (2003). Toddlers' self-regulated compliance to mothers, caregivers, and fathers: Implications for theories of socialization. Developmental Psychology, 39(4), 680-692.
13	Forbes, E. E., Cohn, J. F., Allen, N. B., & Lewinsohn, P. M. (2004). Infant affect during parent-infant interaction at 3 and 6 months: Differences between mothers and fathers and influence of parent history of depression. *Infancy, 5* (1), 61-84.	Not reported	Not reported	Not reported	Infant affect was measured during the parent-child interaction, so it could be considered an aspect of the parent-child interaction rather than an outcome.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
14a	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Infant-Toddler Home Observation for Measuring the Environment (IT-HOME; Caldwell & Bradley, 1984)	Research	Parental warmth Parental lack of hostility Support of learning and literacy Parental verbal skills	2,344 dyads	14 months (Early Head Start sample at a single time point), 60% of mothers were minorities, 46% did not graduate high school, a third on welfare	No	Not reported	Live observation
14b	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Infant-Toddler Home Observation for Measuring the Environment (IT-HOME; Caldwell & Bradley, 1984)	Research	Parental warmth Parental lack of hostility Support of learning and literacy Parental verbal skills	2,166 dyads	24 months (Early Head Start sample at a single time point), 60% of mothers were minorities, 46% did not graduate high school, a third on welfare	No	Not reported	Live observation
14c	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Infant-Toddler Home Observation for Measuring the Environment (IT-HOME; Caldwell & Bradley, 1984), HOME-SF (short form)	Research	Parental warmth Parental lack of hostility Support of learning and literacy Parental verbal skills	2,615 dyads	12-24 months old, from different cohorts of the NLSY-CS study, 59% of mothers are European-American, 73% of mothers were married at birth of the child	No	Yes	Live observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
14a	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Unstructured	All 45 items on the IT-HOME were administered. All of the questions were coded dichotomously for the analysis in this study.	Not reported, but the information was gathered during a home visit that included an extensive parent interview and child assessment.	Yes (some items on the support for learning and literacy subscale were parent report)	Interviewer/assessor
14b	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Unstructured	All 45 items on the IT-HOME were administered. All of the questions were coded dichotomously for the analysis in this study.	Not reported, but the information was gathered during a home visit that included an extensive parent interview and child assessment.	Yes (some items on the support for learning and literacy subscale were parent report)	Interviewer/assessor
14c	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Unstructured	The HOME short form had 18 items and all items were coded dichotomously.	Not reported	Yes (some items on the support for learning and literacy subscale were parent report)	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
14a	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Not reported	Home	Cognitive development Social-emotional development	Peabody Picture Vocabulary Test (PPVT) Child Behavior Checklist - Aggressive Behavior Subscale
14b	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Not reported	Home	Cognitive development Social-emotional development	Peabody Picture Vocabulary Test (PPVT) Child Behavior Checklist - Aggressive Behavior Subscale
14c	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Not reported	Home	Cognitive development Social-emotional development	Peabody Picture Vocabulary Test (PPVT) Behavior Problems Index (BPI)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
14a	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Adjusting for treatment group, child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt: 1. Parental warmth was positively correlated with cognitive outcomes. 2. Support for learning and literacy was positively correlated with cognitive outcomes. 3. Parental warmth was negatively correlated with aggressive behaviors. 4. Parental lack of hostility was negatively correlated with aggressive behaviors. 5. Support for learning and literacy was negatively correlated with aggressive behaviors.	1. r=0.15 (p<0.001) 2. r=0.18 (p<0.001) 3. r=-0.11 (p<0.01) 4. r=-0.08 (p<0.05) 5. r=-0.10 (p<0.001)	Not reported
14b	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Adjusting for treatment group, child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt: 1. Parental warmth was positively correlated with cognitive outcomes. 2. Support for learning and literacy was positively correlated with cognitive outcomes. 3. Parental warmth was negatively correlated with aggressive behaviors. 4. Parental lack of hostility was negatively correlated with aggressive behaviors. 5. Support for learning and literacy was negatively correlated with aggressive behaviors.	1. r=0.17 (p<0.001) 2. r=0.15 (p<0.001) 3. r=-0.08 (p<0.05) 4. r=-0.10 (p<0.01) 5. r=-0.09 (p<0.05)	Not reported
14c	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Adjusting for child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt: 1. Parental warmth was positively correlated with cognitive outcomes. 2. Parental lack of hostility was positively correlated with cognitive outcomes. 3. Support for learning and literacy was positively correlated with cognitive outcomes. 4. Support for learning and literacy was negatively correlated with behavior problems.	1. r=0.11 (p<0.001) 2. r=0.08 (p<0.001) 3. r=0.13 (p<0.001) 4. r=-0.10 (p<0.001)	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
14a	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Treatment group, child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt were included as controls to find the partial correlations.	Not reported	The statistics reported are partial correlations. A partial correlation of 0.1 is considered modest, 0.3 is considered moderate, and 0.5 is considered large (Cohen, 1987).
14b	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Treatment group, child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt were included as controls to find the partial correlations.	Not reported	The statistics reported are partial correlations. A partial correlation of 0.1 is considered modest, 0.3 is considered moderate, and 0.5 is considered large (Cohen, 1987).
14c	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt were included as controls to find the partial correlations.	Not reported	The statistics reported are partial correlations. A partial correlation of 0.1 is considered modest, 0.3 is considered moderate, and 0.5 is considered large (Cohen, 1987).

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
14d	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Infant-Toddler Home Observation for Measuring the Environment (IT-HOME; Caldwell & Bradley, 1984)	Research	Parental warmth Parental lack of hostility Support of learning and literacy Parental verbal skills	1,217 dyads	15 months old, from NICHD study, 84% of mothers were European-American, 71% had some college education and 87% were married at birth of the child	No	No	Live observation
15	Gartstein, M. A., Crawford, J., & Robertson, C. D. (2008). Early markers of language and attention: Mutual contributions and the impact of parent-infant interactions. *Child Psychiatry and Human Development, 39* (9), 9-26. doi: 10.1007/s10578-007-0067-4	Not given (developed by authors)	Research	Maternal sensitivity and responsivity Maternal reciprocity/synchrony	65 dyads	6-12 months, from the San Francisco Bay Area, mean level of education of primary caregiver was 16.25	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
14d	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Unstructured	All 45 items on the IT-HOME were administered. The specific coding mechanism was not reported.	Not reported	Yes (some items on the support for learning and literacy subscale were parent report)	Not reported
15	Gartstein, M. A., Crawford, J., & Robertson, C. D. (2008). Early markers of language and attention: Mutual contributions and the impact of parent-infant interactions. *Child Psychiatry and Human Development, 39* (9), 9-26. doi: 10.1007/s10578-007-0067-4	Semi-structured (the mother was provided with a toy telephone and was instructed to play with the baby however she wanted)	Interactions were rated based on 10 interactional attributes related to maternal sensitivity (i.e., emotional attunement, enjoyment of joint activity). A global rating (from 1-7) was assigned based on examination of these attributes, with a higher rating representing better quality. Three interactional attributes related to reciprocity and/or synchrony were coded and a global rating of 1-7 (on the same scale as that of maternal sensitivity) was assigned.	2 minutes	No	Graduate students in psychology

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
14d	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Not reported	Home	Cognitive development Social-emotional development	Bayley Mental Development Index (MDI) Child Behavior Checklist for Ages 2-3 (CBCL-2/3)
15	Gartstein, M. A., Crawford, J., & Robertson, C. D. (2008). Early markers of language and attention: Mutual contributions and the impact of parent-infant interactions. *Child Psychiatry and Human Development, 39* (9), 9-26. doi: 10.1007/s10578-007-0067-4	Three raters were trained	Ranged from 0.6 to 0.96 (average was 0.82)	Clinical setting	Temperament	Parent report of child temperament (Infant-Behavior Questionnaire Revised, IBQ-R)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
14d	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Adjusting for child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt: 1. Parental warmth was positively correlated with cognitive outcomes. 2. Parental verbal skills were positively correlated with cognitive outcomes. 3. Support for learning and literacy was positively correlated with cognitive outcomes. 4. Support for learning and literacy was negatively correlated with behavior problems.	1. r=0.08 (p<0.01) 2. r=0.08 (p<0.01) 3. r=0.15 (p<0.001) 4. r=-0.09 (p<0.01)	Not reported
15	Gartstein, M. A., Crawford, J., & Robertson, C. D. (2008). Early markers of language and attention: Mutual contributions and the impact of parent-infant interactions. *Child Psychiatry and Human Development, 39* (9), 9-26. doi: 10.1007/s10578-007-0067-4	1. Infants' perceptual sensitivity was correlated with mothers' responsivity/sensitivity. 2. In a regression model, higher maternal synchrony/reciprocity was associated with lower levels of sustained/focused attention for infants. 3. Parents who were more emotionally attuned and/or were able to respond more effectively to their infants' cues reported an increased ability of the child to detect and attend to low intensity stimuli.	1. r=0.302 2. β= -0.312 3. β= 0.336	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
14d	Fuligni, A. S., W.-J. Han, et al. (2004). "The Infant-Toddler HOME in the 2nd and 3rd years of life." *Parenting: Science and Practice 4* (2 and 3): 139-159.	Not reported	Child gender, maternal race/ethnicity, teenage childbearing, education, marital status, and welfare receipt were included as controls to find the partial correlations.	Not reported	The statistics reported are partial correlations. A partial correlation of 0.1 is considered modest, 0.3 is considered moderate, and 0.5 is considered large (Cohen, 1987).
15	Gartstein, M. A., Crawford, J., & Robertson, C. D. (2008). Early markers of language and attention: Mutual contributions and the impact of parent-infant interactions. *Child Psychiatry and Human Development, 39* (9), 9-26. doi: 10.1007/s10578-007-0067-4	There was a significant interaction between the infant's vocal reactivity and parental sensitivity, indicating that infants whose mothers reported more prominent vocalizing, and whose observed interactions with caregivers were rated as more responsive/sensitive, were the most capable of attending to low intensity stimuli.	Not reported	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
16	Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66* (3), vii-126.	Nursing Child Assessment Teaching Scale (NCATS; Barnard, 1978)	Research	Maternal sensitivity Responsiveness to distress Promoting cognitive and social-emotional growth	183 children and their parents	Child were recruited if they had Down syndrome and were no older than 12 months, or if they had motor impairment or developmental delay and were no older than 24 months. Children were measured at 6 weeks and 1 year after entry into early intervention services, and at 3, 5, and 10 years of age. Mother-child interaction was measured at age 3. 89.1% of families were European American, 4.9% Hispanic, 1.6% African American, 4.4% mixed race or other.	Yes (all children had Down syndrome, motor impairment, or developmental delay of unknown etiology)	No	Live observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
16	Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66* (3), vii-126.	Structured ("A task just beyond the child's ability level was selected for the mother to teach the child" [p. 36])	The teaching interaction was scored on 50 items based on the selected subscales (sensitivity to cues, response to distress, social-emotional growth fostering, and cognitive growth fostering). Additional information on the scoring was not reported.	Not reported, but interaction was measured during a 2-3 hour home visit during which numerous other assessments and questionnaires were completed.	No	Trained field staff members

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
16	Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66* (3), vii-126.	Not reported	The Cronbach's alpha reliability coefficient for the NCATS measure was .82.	In the home during a 2-3 hour home visit	Cognitive (mental age) Social-emotional (adaptive skills (social, communication, and daily living skills))	Mental age: Mental Scale of the Bayley Scales of Infant Development at 6 weeks and 1 year after enrollment; McCarthy Scales of Children's Abilities at ages 3 and 5; Stanford-Binet Intelligence Scale at age 10 (15% of children were always assessed with the Bayley Scales) Adaptive Skills: The Vineland Adaptive Behavior Scales-Interview Form, social, communication, and daily living subscales) (parent report)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
16	Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66* (3), vii-126.	1. Children whose mother's scored higher on mother-child interaction at age 3 had higher mental age scores at age 3 and demonstrated greater change in mental age from ages 3 to 10. 2. Mothers with higher mother-child interaction scores had children with more growth in social skills over time. 3. Mother-child interaction was the only significant correlate of communication skills at age 3 and the only significant predictor of growth in communication skills over time (by age 10, children with more positive as opposed to less positive mother-child interactions had a 10-month advantage in communication skills). 4. Mother-child interaction was not a significant predictor of daily living skills at age 3 or growth from ages 3 to 10.	1. Beta at age 3=.593, SE=.87, p<.05; beta for rate of change=.023, SE=.03, p<.01. 2. Beta for rate of change=.004, SE=.00, p<.05. 3. Beta at age 3=.121, SE=.06, p<.05; beta for rate of change=.005, SE=.00, p<.05.	Mental age is a partial mediator between predictors (which include a wide array of child and family characteristics including parent-child interaction) and communication and daily living adaptive skills.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
16	Hauser-Cram, P., Warfield, M. E., Shonkoff, J. P., & Krauss, M. W. (2001). Children with disabilities: A longitudinal study of child development and parent well-being. *Monographs of the Society for Research in Child Development, 66* (3), vii-126.	Mother-child interaction at age 3 and child mental age at age 3 and rate of change from ages 3 to 10 were moderated by child disability type (affects were weaker for children with Down syndrome).	All children were participating in community-based early intervention programs when recruited.	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
17	Hurtado, N., Marchman, V. A., & Fernald, A. (2008). Does input influence uptake? Links between maternal talk, processing speed and vocabulary size in Spanish-learning children. *Developmental Science, 11* (6), F31–F39.	Not given (developed by authors)	Research	Maternal child-directed speech	27 mother-child dyads	Data were collected on maternal speech when the child was 18 months and child outcomes were measured at 18 and 24 months. Most parents had less than a high school education and were low SES according to the Hollingshead Four Factor Index of Social Status. Most of the parents were recent immigrants from Mexico with limited English proficiency. All parents reported that Spanish was the only language spoken in the home.	No	Yes (all interactions and coding done in Spanish).	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
17	Hurtado, N., Marchman, V. A., & Fernald, A. (2008). Does input influence uptake? Links between maternal talk, processing speed and vocabulary size in Spanish-learning children. *Developmental Science, 11* (6), F31–F39.	Semi-structured (free play activity)	All observations are made with an author-developed method of coding Spanish-language maternal child-directed speech. Number, length and variety of utterances and words were recorded.	20 minute play interaction at 18 months. Coding is of the 12 minutes beginning two minutes after the mothers and children settle into playing.	No	Researchers

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
17	Hurtado, N., Marchman, V. A., & Fernald, A. (2008). Does input influence uptake? Links between maternal talk, processing speed and vocabulary size in Spanish-learning children. *Developmental Science, 11* (6), F31–F39.	Utterances are coded with CHILDES protocol	All transcripts and coding were double checked by original transcriber and first author of the study (percentage agreement with the master coder was not reported).	Community-based laboratory in low-income neighborhood near San Francisco, CA	Language (real-time comprehension and vocabulary learning)	Child vocabulary: MacArthur-Bates Inventario del Desarrollo de Habilidades Comunicativas: Inventario II (parent report) Comprehension efficiency: looking-while-listening procedure (measures gaze patterns when a target noun was mentioned)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
17	Hurtado, N., Marchman, V. A., & Fernald, A. (2008). Does input influence uptake? Links between maternal talk, processing speed and vocabulary size in Spanish-learning children. *Developmental Science, 11* (6), F31–F39.	Questions: Does mother's child-directed speech at 18 months relate to child vocabulary at 18 and 24 months? Does child's vocabulary size relate to efficiency in indentifying common nouns in speech and is this related to early language experience? Do processing speed and vocabulary knowledge work together for a more efficient update of the information in caregiver talk? 1. There was great variation in maternal speech, but there were some correlations among the four features examined. Mother speech and child vocabulary were not related to SES (although most of the sample was low-income). Children's' vocabularies grew from 18 to 24 months. 2. Number of utterances and words spoken by mother at 18 months was associated with child vocabulary and size of increases in vocabulary at 24 months. 3. Child reaction time (changing gaze when being presented with the target word) at 24 months was associated with greater vocabulary gains from 18 to 24 months (children with faster reaction times had significantly larger vocabulary increases). More maternal talk (number of utterances) and more complex maternal talk were correlated with faster child reaction time at 24 months.	1. a) "Mothers who produced more utterances also used more word tokens, r(27)=.86, p< .001, and types, r(27)=.56, p< .01, than those who said fewer utterances, and mothers who spoke more also used more different words, r(27)=.80, p< .001, and longer utterances, r(27)=.68, p<.001." (F34). b) Children's vocabularies grew: t(26)=6.5, p< .001. 2.a) Number of utterances' effect on vocabulary at 24 months: .37, p<.07 or .38, p<.05 when controlling for child vocabulary at 18 months. Number of utterances effect on vocabulary growth: .39, p<.05. b) Number of words' effect on vocabulary at 24 months: .42, p<.05 or .45, p<.05 when controlling for child vocabulary at 18 months. Number of words' effect on vocabulary growth: .45, p<.05. 3. a) Reaction time at 24 months associated with vocabulary from 18 to 24 months: r(27)= -.55, p<.01. b) Maternal talk accounted for 18-26% of the variance in child reaction time at 24 months. t(25)=3.5, p<.01.	Processing speed at 24 months was a mediator between maternal talk at 18 months and child vocabulary size at 24 months (maternal talk matters less (non-significant correlation of .14) when processing speed is a mediator than when it isn't included (.24). Vocabulary size was a mediator between maternal talk at 18 months and processing speed at 24 months (the relationship between maternal talk and processing speed (-.33) is no longer significant (-.21) when vocabulary size is included as a mediator).

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
17	Hurtado, N., Marchman, V. A., & Fernald, A. (2008). Does input influence uptake? Links between maternal talk, processing speed and vocabulary size in Spanish-learning children. *Developmental Science, 11* (6), F31–F39.	There were no differences in maternal talk patterns or child outcomes based on child sex or family SES.	All families spoke only Spanish in the home and all utterances and exchanges in this study were in Spanish.	Sample was almost entirely low SES.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
18	Ispa, J. M., M. A. Fine, et al. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development 75*(6): 1613-1631.	"Three bag" play session (NICHD Early Child Care Research Network, 1999)	Research	Maternal warmth Intrusiveness	1,232 mother-child dyads.	Children were assessed at 15 and 25 months. 579 families were European American, 412 African American and 110 more and 131 less acculturated Mexican-American families. All families are low-income (below the FPL).	No	Yes	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
18	Ispa, J. M., M. A. Fine, et al. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development 75* (6): 1613-1631.	Semi-structured (free play activity) Parents were given three bags with different toys and instructed to play with child in any way.	Scored with nine 7-point scales adapted from the NICHD study's "three box" assessment of mother-child interactions. Higher scores represented a higher quantity and quality of the behaviors observed. Dimensions were later correlated with other measures (maternal intrusiveness: Traditional subscale of the Parental Modernity Scale; maternal warmth: Emotional Responsivity subscale of the Infant/Toddler Home Observation for Measurement of the Environment).	10 minute "three bag" play sessions at 15 and 25 months (completed during 2 hour home visits for the EHS Research and Evaluation Project)	No	Graduate students (five coders at 15 months, eight coders at 25 months; coders represent a variety of ethnic backgrounds)

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
18	Ispa, J. M., M. A. Fine, et al. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development 75* (6): 1613-1631.	Coders were trained to a criterion level of 85% agreement (exact or within one point) on all scales.	At 15 months: Intraclass correlations and percentage agreement within one point on maternal warmth and intrusiveness scales were .72 (91%) and .75 (90%) respectively. At 25 months: Intraclass correlations and percentage agreement within one point on child negativity, child engagement and dyadic mutuality were .74 (97%), .68 (91%) and .73 (91%) respectively. Reliability checks were performed on 15-20% of a coder's weekly videos.	In the home during another study's home visits	Social-emotional (three dimensions of the mother-toddler relationship: child negativity, child engagement, and dyadic mutuality)	"Three bag" play session at 25 months. Outcomes in the three dimensions of mother-toddler relationship were later correlated with other measures (child negativity and child engagement: Aggressive subscale of the Child Behavior Checklist for ages 2-3; dyadic mutuality: Parent-Child Dysfunctional Interaction subscale of the Parenting Stress Index).

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
18	Ispa, J. M., M. A. Fine, et al. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development 75* (6): 1613-1631.	1. Maternal Intrusiveness: Maternal intrusiveness at 15 months predicted child negativity at 25 months. Maternal intrusiveness at 15 months inversely predicted child engagement at 25 months for European American mothers, but was unrelated for the other groups. There was no relationship between maternal intrusiveness at 15 months and dyadic mutuality at 25 months for the whole sample, but results were almost significant for intrusiveness to inversely predict mutuality for European American families. 2. Maternal Warmth: Maternal warmth at 15 months inversely predicted child negativity at 25 months. Maternal warmth at 15 months predicted child engagement at 25 months. Maternal warmth at 15 months predicted dyadic mutuality at 25 months.	1. pr=.14, p<.001. pr= -.09, p<.001 2. pr= -.11, p<.001. pr=.16, p<.001. pr=.18, p<.001.	When controlling for maternal age, partner status, and education, the correlation between warmth and intrusiveness at 15 months for European American, African American, and less acculturated Mexican American mothers was significant (r= -.25, -.24, and -.24 respectively with p<.001) (it was partially significant for the more acculturated Mexican American mothers).

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
18	Ispa, J. M., M. A. Fine, et al. (2004). Maternal intrusiveness, maternal warmth, and mother-toddler relationship outcomes: Variations across low-income ethnic and acculturation groups. *Child Development 75* (6): 1613-1631.	Ethnicity was a moderator: European mothers were significantly less intrusive at 15 months ($p<.05$); there were no differences in intrusiveness among the three minority groups at 15 months. European mothers were significantly warmer at 15 months and more acculturated Mexican mothers showed more warmth than less acculturated Mexican mothers. At 25 months, European American toddlers were more negative than less acculturated Mexican-American toddlers. There was higher child negativity, lower maternal engagement, and lower dyadic mutuality among the African American families than any other group. Parental warmth moderated the link between intrusiveness and child negativity in African American families. Child sex was not a significant moderator of any behavior or outcome.	All families were eligible for EHS participation.	The sample was entirely low-SES. Ethnicity was a significant moderator in numerous outcomes; the same behaviors can be viewed differently in different cultures or differently in conjunction with other behaviors or characteristics.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
19	Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child Development, 71* (2), 417-431.	Not given (developed by authors)	Research	Mutually responsive orientation	103 dyads	32 months, 46 months and then follow-up 66 months; all normally developing; all from several counties in eastern Iowa	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
19	Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child Development, 71* (2), 417-431.	Structured "The sessions encompassed multiple naturalistic yet carefully scripted contexts of mother-child interaction and diverse conscience paradigms" (pg. 419). Additional information about the interaction was not provided.	The ultimate score of shared cooperation included maternal responsiveness to the child captured by a "microscopic" coding system and child responsiveness to the mother, or enthusiastic, eager compliance ("committed compliance"). Within microscopic coding, coders examined each 60-second segment of the interaction and, for each one, identified all "child-related events": child distress/negative affect, bid for attention, and need for help/assistance. In the segments where there were no such events, one of the global codes was used (mother and child engaged in separate activities, child not addressing/needing mother but mother addressing child, mother and child engaged in an activity led by and most guided by mother, and uncodable).	At a mean age of 32 months: 2.5 hours in the home and 2.5 hours in the laboratory At a mean age of 46 months: 3 hours in the laboratory	Yes	Experimenter

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
19	Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child Development, 71* (2), 417-431.	Not reported	Reliability across multiple checks was .74 for specifying their categories and .73 for maternal response.	Home and laboratory	Conscience development (internalization of maternal request, internalization of experimenter's rules)	Throwing Game (Velcro dart board game and experimenter coded child's rule violations) Ring Toss Game (child played with peers and experimenter coded child's rule violations) Child were read 2 stories and in each, child was asked what course of action the protagonist should take (experimenter than challenged child's choice to see if child would change response to selfish or prosocial choice)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
19	Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child Development, 71* (2), 417-431.	1. Children who at a mean age of 32 months had been in dyads high in observed mutually responsive orientation with their mothers scored higher on all conscience measures at a mean age of 46 months.	1a) Throwing Game at preschool age =.34. b) Ring Toss at preschool age= .32. c) Moral Cognition at preschool age= -.23.	Mother-reported mutually responsive orientation at toddler age (32 months) contributed to conscience at early school age (66 months) only indirectly, mediated by mother-reported mutually responsive orientation at preschool age (46 months).

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
19	Kochanska, G., & Murray, K. T. (2000). Mother-child mutually responsive orientation and conscience development: From toddler to early school age. *Child Development, 71* (2), 417-431.	Not reported	Not reported	All participants were from several counties in eastern Iowa.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
20	Kochanska, G., Furman, D. R., Aksan, N., & Dunbar, S. B. (2005). Pathways to conscience: Early mother-child mutually responsive orientation and children's moral emotion, conduct and cognition. *Journal of Child Psychology and Psychiatry, 46* (1), 19-34.	Not given (developed by authors)	Research	Mutually responsive orientation (maternal responsiveness and shared positivity) Power assertion Committed compliance Children's enjoyment of interaction	74 dyads	9, 14, and 22 months, mediator observed at 33 months, outcomes observed at 45, & 56 months; White	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
20	Kochanska, G., Furman, D. R., Aksan, N., & Dunbar, S. B. (2005). Pathways to conscience: Early mother-child mutually responsive orientation and children's moral emotion, conduct and cognition. *Journal of Child Psychology and Psychiatry, 46* (1), 19-34.	Unstructured	Mutually responsive orientation was coded based on two components: maternal responsiveness and shared positivity. For maternal responsiveness, two coding systems were used: microscopic and macroscopic coding. Within microscopic coding, time-sampling and event-triggered approaches were used. During the first pass of coding the 60 second intervals, the coders decided whether the child made a signal that required a maternal response (kappa =.87). During the second pass, the mother's response to the child's signal was coded as poor, fair, good, or exceptional based on interaction qualities such as engagement, acceptance, and cooperation (kappa=.68-.75). The macroscopic coding was used for interactions. Three 9-point scales were used (Ainsworth, Bell, & Stayton, 1971) which included sensitivity-insensitivity, acceptance-rejection, and cooperation-interference (kappa = .65 to .83). (For more information, please see the comments column.)	At 9 and 14 months: 2-2.5 hours At 22 and 33 months: 3-4 hours At 56 months: 4 hours	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
20	Kochanska, G., Furman, D. R., Aksan, N., & Dunbar, S. B. (2005). Pathways to conscience: Early mother-child mutually responsive orientation and children's moral emotion, conduct and cognition. *Journal of Child Psychology and Psychiatry, 46* (1), 19-34.	Independent teams coded all the data sets	Reliability was based on at least 15% of the cases; coders realigned to prevent observer drift; data were aggregated at multiple levels of measurement	Home Clinical setting	Children's conscience (moral emotion of guilt, moral cognition, & moral conduct)	Moral emotion of guilt: Children were led to believe he/she had damaged a stuffed cat and toy boat (coding schemes were based on child's avoid gaze, bodily tension, and overall distress response). Moral conduct: Internalization while alone with prohibited toys (coding schemes were based on child's behaviors after being told not to play with toys) and internalization while playing the "cheating game" (behaviors were coded based on whether child played the game by the rules). Moral cognition: Children were read four stories that had dilemmas (coding schemes were based on child's response on how to solve dilemma).

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
20	Kochanska, G., Furman, D. R., Aksan, N., & Dunbar, S. B. (2005). Pathways to conscience: Early mother-child mutually responsive orientation and children's moral emotion, conduct and cognition. *Journal of Child Psychology and Psychiatry, 46* (1), 19-34.	MRO had a positive effect on moral conduct through a mediated path (promoting the child's enjoyment of interactions with mother and enhancing committed compliance). 1. MRO at 9-22 months was positively correlated with 45-month moral emotion, and 56-month conduct and cognition. 2. MRO predicted three mediators at 33 months (children's enjoyment of interactions with mothers; children's committed compliance; mother's power assertion). 3. Child's enjoyment of interaction with mother at 33 months was positively correlated with moral conduct and moral cognition at 56 moths. 4. Committed compliance at 33 months was positively correlated with moral conduct at 56 months. 5. Maternal power assertion at 33 months was positively correlated with child's moral conduct at 56 months.	1. MRO correlated with moral emotion (.20, p<.05); moral conduct (.22, p<.025) moral cognition (.27, p<.01) 2. MRO predicting the mediators: enjoyment of interaction (.20, p<.05); committed compliance (.22, p<.025); power assertion (-.31, p<.01). 3. Child's enjoyment of interaction with mother correlated with moral conduct (0.33, p<.01); cognition (0.25, p<.05) 4. Committed compliance correlated with moral conduct (0.46, p<.001) 5. Maternal power correlated with moral conduct (-0.36, p<.01)	MRO predicted three mediators at 33 months (children's enjoyment of interactions with mothers; children's committed compliance; mother's power assertion). MRO had a positive effect on moral conduct through a mediated path (promoting the child's enjoyment of interactions with mother and enhancing committed compliance).

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
20	Kochanska, G., Furman, D. R., Aksan, N., & Dunbar, S. B. (2005). Pathways to conscience: Early mother-child mutually responsive orientation and children's moral emotion, conduct and cognition. *Journal of Child Psychology and Psychiatry, 46* (1), 19-34.	Not reported	White	Not reported	(Continued from the rating procedure column.) Shared positivity was coded during 30 second intervals. For both the mother and child, one or more negative or positive affects were coded (kappa = .63 to .80). Child's enjoyment of interaction were completed in conjunction with the affect coding of the child and were weighted based on affect coding it was given. Committed compliance was coded during free play, free time, and snack time. There was a toy shelf that was prohibited by mother and the child's behavior was coded based on looking but not touching the prohibited toys, when the child verbalized that he/she couldn't touch the toys, and/or turned away from the toys. Mother's power assertion was coded during 30 second intervals and were based on assertive control, and forceful control.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
21	Laible, D. J. (2004). Mother-child discourse surrounding a child's behavior at 30 months: Links to emotional understanding and early conscience development at 36 months. *Merrill Palmer Quarterly, 50* (2), 159-180.	Not given (developed by authors)	Research	Maternal discussion of emotion in conversation surrounding a child's past positive and negative behaviors	63 dyads	26-29 months and then follow-up at 30 & 36 months; primarily Caucasian, from two-parent households, and mother had college or advanced degree	No	No	Video observation
22	Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal-infant emotional availability in a low-income sample. *Infant Mental Health Journal, 26* (4), 354-368.	2nd edition of the Emotional Availability Scales (Biringen, Robinson, & Emde, 1993)	Research	Maternal sensitivity/responsiveness Maternal intrusiveness/structuring Maternal hostility	47 dyads	12 months; primarily African American, unmarried, and low income	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
21	Laible, D. J. (2004). Mother-child discourse surrounding a child's behavior at 30 months: Links to emotional understanding and early conscience development at 36 months. *Merrill Palmer Quarterly, 50* (2), 159-180.	Structured (mother and child came to the laboratory and participated in a session that included free play, clean up, conversation, and frustration task)	Mother and child's interaction was coded based on three components: references to emotions (using words such as mad, angry, and happy), maternal elaborative style (rated on a 5-point scale with 1 being low where little to no background information about the behavior was given, and 5 being high levels of background material discussed and the use of open-ended questions) and clarity of discourse (rated on a 5-point scale where 1 represented low levels of clarity and 5 represented high levels of clarity).	45 minutes	No	Researcher
22	Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal-infant emotional availability in a low-income sample. *Infant Mental Health Journal, 26* (4), 354-368.	Semi-structured (10 minute free play interaction) Structured (an infant separation/restraint reactivity condition and 3 infant regulation conditions, which included infant self-regulation, infant-experimenter interaction, and infant-mother reunion)	Maternal sensitivity was rated on a 10-point scale with higher scores representing high sensitivity. Maternal intrusiveness/structuring was rated on a 7-point scale with higher scores representing high intrusive behavior. Maternal hostility was rated on a 5-point scale with higher scores representing high hostile behavior.	10 minute free play, emotional challenge condition (length not reported), self-soothe condition (3 minutes), experimenter-soothe condition (3 minutes), mother-reunion condition (3 minutes)	No	Trained data collector

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
21	Laible, D. J. (2004). Mother-child discourse surrounding a child's behavior at 30 months: Links to emotional understanding and early conscience development at 36 months. *Merrill Palmer Quarterly, 50* (2), 159-180.	Coding team was blind to scores and transcribed videos were coded for references to emotion, maternal elaborative style, and clarity of maternal discourse.	A second coder recoded 20 of the 63 transcripts. Emotion: Second coder agreed 91% of the time on the presence or absence of a particular emotional reference. Elaborativeness: Second coder rating kappa = .78 Clarity: Second coder rating kappa = .75	Clinical setting	Behavioral internalization Emotional understanding	Behavioral internalization: child was given a resistance-to-temptation task (coding schemes based on child's behaviors such as looking and/or touching toys that child was told not to touch). Emotional understanding: two-part "affective perspective taking task" (coding schemes based on whether child matched facial expression to feeling felt and whether the child matched the puppets expression to the correct emotion)
22	Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal-infant emotional availability in a low-income sample. *Infant Mental Health Journal, 26* (4), 354-368.	Not reported	For reliability, 28% of the videotapes were randomly selected and rated by 2 trained coders. Interclass correlation coefficients were calculated for each EA dimension, and all scales showed adequate interrater reliability (for sensitivity, r=.67; for intrusiveness/structuring, r=.82; for hostility, r=.67; for infant responsivity, r=.64; and for infant involvement, r=.65.	Laboratory	Infant emotional regulation	Rated emotion negativity on a 1-7 scale and rated emotional reactivity with the 2 variables of latency to any negative emotional state and intensity of the first negative emotional state.

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
21	Laible, D. J. (2004). Mother-child discourse surrounding a child's behavior at 30 months: Links to emotional understanding and early conscience development at 36 months. *Merrill Palmer Quarterly, 50* (2), 159-180.	1. Mothers that used a clear and elaborate style of conversing with the child about past good and bad behaviors had children who scored higher on emotional understanding, behavioral internalization tasks, and concern over the other's wrongdoing 6 months later. 2. Mother-child talk about past bad behaviors of child had children who scored higher on internalized self-conduct 6 months later.	Coefficients 1. a) Emotional understanding (.38, p<.01), behavioral internalization tasks (.30, p<.05), and concern over the other's wrongdoing (.39, p<.01). b) Emotional understanding (.39, p<.01) and behavioral internalization (.25, p<.05) 2. Internalized self-conduct (.41, p<.01) Beta scores b)Internalized self-conduct (.39, p<.01) and concern over others wrong doings (.30, p<.01)	Not reported
22	Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal-infant emotional availability in a low-income sample. *Infant Mental Health Journal, 26* (4), 354-368.	1. Emotional availability and maternal hostility contribute to emotion regulation in the challenge condition and across the post-challenge regulation conditions.	1. The standardized beta coefficient for latency to negativity (-.76) was significant (p<.05); the standardized beta coefficient for maternal hostility (.28) was statistically significant (p<.05).	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
21	Laible, D. J. (2004). Mother-child discourse surrounding a child's behavior at 30 months: Links to emotional understanding and early conscience development at 36 months. *Merrill Palmer Quarterly, 50* (2), 159-180.	Not reported	Two-parent households, and mother had college or advanced degree	Not reported	
22	Little, C., & Carter, A. S. (2005). Negative emotional reactivity and regulation in 12-month-olds following emotional challenge: Contributions of maternal-infant emotional availability in a low-income sample. *Infant Mental Health Journal, 26* (4), 354-368.	Not reported	Not reported	The current sample is comprised of mothers who are poor, predominantly unmarried, and African American. The study notes the difficulty in that we cannot disentangle culturally specific parenting practices from poverty or potential lack of co-parent support.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
23	Markus, J., Mundy, P., Morales, M., Delgardo, C. E. F., & Yale, M. (2000). Individual differences in infant skills as predictors of child-caregiver joint attention and language. *Social Development, 9* (3), 302-315.	Not given (developed by authors)	Research	Joint attention	21 dyads	12 months (18, 21, 24 months); middle to upper class; 9 multi-ethnic, 8 White, 1 African American, 3 Hispanic.	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
23	Markus, J., Mundy, P., Morales, M., Delgardo, C. E. F., & Yale, M. (2000). Individual differences in infant skills as predictors of child-caregiver joint attention and language. *Social Development, 9* (3), 302-315.	Semi-structured (parent and child were given toys and asked to play while in the laboratory)	A joint attentional focus was based on whether one member of the dyad initiated the interaction, both members of the dyad began to engage in simultaneous joint attention on an on object, and whether the child overtly responded to the interaction (looking at mother). The joint attentional focus ended when one of the dyads shifted their focus elsewhere. Data were collected on frequency of joint attention episodes and the number of times child initiated this joint attention.	5 minute play sessions	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
23	Markus, J., Mundy, P., Morales, M., Delgardo, C. E. F., & Yale, M. (2000). Individual differences in infant skills as predictors of child-caregiver joint attention and language. *Social Development, 9* (3), 302-315.	Two coders	Sample of 10 were randomly selected for reliability coding with an agreement of r=1.00 (p<.000)	Clinic setting	Vocabulary development Cognitive development	Vocabulary development: MacArthur Communicative Development Inventories (receptive and expressive language) Cognitive development: Bayley Scales of Infant Development-II (cognitive development)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
23	Markus, J., Mundy, P., Morales, M., Delgardo, C. E. F., & Yale, M. (2000). Individual differences in infant skills as predictors of child-caregiver joint attention and language. *Social Development, 9* (3), 302-315.	1. Amount of time infant and parent spent in joint attention at 18 months was positively associated with receptive language.	1. r(21)=.56 (p < .01)	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
23	Markus, J., Mundy, P., Morales, M., Delgardo, C. E. F., & Yale, M. (2000). Individual differences in infant skills as predictors of child-caregiver joint attention and language. *Social Development, 9* (3), 302-315.	Not reported	Not reported	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
24	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. *Early Childhood Research Quarterly, 22* , 423–439.	"Three box" play session (adaptation of NICHD three bag task, NICHD Early Child Care Research Network, 1999)	Research	Maternal and paternal sensitivity Cognitive stimulation Positive regard Intrusiveness Detachment Negative regard	200 mother-father-child triads	Mother-child and father-child dyads observed at 24 months (outcomes collected at 5 years) All families were low-income (82% below FPL) All families are two-parent, residential families Sample was ethnically diverse (Mothers: 66% White, 19% African American, 13% Hispanic, 3% other)	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
24	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. *Early Childhood Research Quarterly, 22* , 423–439.	Semi-structured (free play activity) Parents were given three bags with different toys and instructed to play with child in any way.	Observations were scored with six 7-point scales adapted from the NICHD study's "three bag" assessment of mother-child interactions. The six scales score 1) sensitivity, 2) positive regard, 3) cognitive stimulation, 4) detachment, 5) negative regard, and 6) intrusiveness. Higher scores represented more of the observed behaviors.	"Three box" play session and cognitive outcome data collected during home visits for the EHS Research and Evaluation Project	No	Coders trained by research scientist at the National Center for Children and Families

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
24	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. *Early Childhood Research Quarterly, 22* , 423–439.	Coders trained using sample interactions to illustrate high, medium, and low scores. Coders were trained to a criterion level of 85% agreement (exact or within one point) with the researcher on all scales.	Average agreement among coders ranged from 89-98% for the mother tapes and from 94-96% on the father tapes. Reliability checks were performed on 15% of a coder's weekly videos.	In the home during another study's home visits	Cognitive (math and language scores at age 5)	Math: Woodcock-Johnson-Revised Applied Problems subtest Language (receptive ability): Peabody Picture Vocabulary Test-III

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
24	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. *Early Childhood Research Quarterly, 22* , 423–439.	1. Children with two supportive parents had the best language and math outcomes while children with two unsupportive parents had the worst language and math outcomes. Children with one supportive parent and one unsupportive parent scored between the other two groups. 2. Effects of parental support were additive; there was no interaction or multiplicative effect between maternal supportiveness and paternal supportiveness. 3. The strongest distinctions in child outcomes were between highly and somewhat supportive and between negative and detached parenting. 4. Highly supportive parents, somewhat supportive, detached and negative parents were more likely to be with another parent with a similar parenting style than a different one.	1. a) Children with two supportive parents scored 107% of a s.d. higher on math and 59% of a s.d. higher on language than children with two unsupportive parents ($p<.05$). b). Children with a highly supportive mother scored 65% of a s.d. higher on math and 57% of a s.d. higher on language than children with a unsupportive-detached mother ($p<.05$). c). Children with a highly supportive father scores 71% of a s.d. higher on math and 49% of a s.d. higher on language than children with a unsupportive-negative father ($p<.05$). 4. $p<.05$.	There were no interactions between maternal and paternal supportiveness (meaning combined effects are additive). No other factors (including maternal and paternal race, parental education, paternal biological status, child sex, birth order) mediated any of the outcomes.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
24	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. *Early Childhood Research Quarterly, 22* , 423–439.	Among the children with one supportive parent and one unsupportive parent, child outcomes were not dependent on which gender the supportive or unsupportive parent was.	All families were eligible for EHS participation.	The sample was entirely low-SES. Participation by fathers was not required for the EHS study, so the sample may include self-selection bias toward more involved fathers.	This is the follow-up study to Ryan, R. M., A. Martin, et al. (2006). "Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months." Parenting: Science and Practice 6(2 and 3): 211-228 (also included in this review). This study aims to address possible interactions between the supportiveness levels of the child's two parents.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
25	National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71* (4), 960-980.	Observational Record of the Caregiving Environment (ORCE; NICHD Early Child Care Research Network, 1996)	Research	Responsiveness Positive affect Intrusiveness Promoting cognitive and social development	595 to 856 (depending on assessment)	Birth and then follow-up at 15, 24, & 36 months, & 3 years); varying SES and ethnicities/races	No	No	Live observation
26	NICHD Early Child Care Research Network. (2001). Child care and children's peer interaction at 24 and 36 months: The NICHD study of early child care. *Child Development, 72* (5), 1478-1500.	Observational Record of the Caregiving Environment (ORCE; NICHD, 1996)	Research	Maternal sensitivity	669 dyads	1 month, 6 months, 15 months, 24 months, and then follow-up at 36 months	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
25	National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71* (4), 960-980.	Unstructured (dyads observed naturally in childcare setting)	The quality of care rating was a composite score of the positive caregiving rating and frequency of language stimulation. Positive caregiver scores were based on composite scores of five scales: sensitivity to nondistress, stimulation of cognitive development, positive regard, detachment, and flatness of affect. At 36 months exploration and intrusiveness was included in the composite scores. Frequency of language stimulation was based on composite scores of two caregiver behaviors which included asking questions to the child, and responding to the child's vocalizations.	Two half day periods within a 2-week interval; four 44-minute cycles spread over the two half-days were completed at 6, 15, 24, and 36 months. First three cycles consisted of 10 min observation periods where child and caregiver interactions were recorded every 30 seconds. The three cycles were separated by two 2 min break. The last ten minutes were for qualitative ratings.	No	Not reported
26	NICHD Early Child Care Research Network. (2001). Child care and children's peer interaction at 24 and 36 months: The NICHD study of early child care. *Child Development, 72* (5), 1478-1500.	Semi-structured (At 6 months, mothers were asked to play with their infant for 7 minutes with any toy or object available in the home, and then play for 8 minutes with a standard set of toys provided by the examiners [rattles, activity center, ball, rolling, toy, book stuffed animal]. At 15, 24, and 36 months, mothers and children were given 3 containers of age-appropriate toys and were instructed to play with these toys as they wished).	Not reported (see NICHD Early Child Care Research Network, 1996)	15 minute episode of mother-child play in the home; four 44 minute observation periods in childcare; 15 minute episode of mother-child play in the laboratory	No	Trained data collector

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
25	National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71* (4), 960-980.	Coders coded videotapes that were previously coded by experts. Coders demonstrated 60% match with the expert coder and there was 80% agreement with the expert for grouped codes. Live interobserver reliability was also calculated three to four times at about 3 month intervals throughout each data collection period. Intraclass correlations among partners ranged from .89 to .99.	Frequency of each behavior was standardized and then summed to create composite scores at 15, 24, and 36 months. Frequency of language stimulation was positively correlated with positive caregiver ratings that ranged from .58 to .71 (ps<.001) Cronbach's α Positive caregiver rating: internal consistency: 6 months (.89), 15 months (.88), 24 months (.84), 36 months (.83) Frequency of language stimulation: internal consistency: 15 months (.88), 24 months (.92), 36 months (.90) Live interobserver reliability was calculated; intra class correlations ranged from .89 to .99	Childcare setting	Cognitive and language development	Cognitive development: Bayley Scales of Infant Development & School Readiness subtest of the Bracken Sale of Basic concepts Language development: MacArthur Communicative Development Inventory & Reynell Development Language Scales
26	NICHD Early Child Care Research Network. (2001). Child care and children's peer interaction at 24 and 36 months: The NICHD study of early child care. *Child Development, 72* (5), 1478-1500.	Not reported	.87 at 6 months, .83 at 15 months, .85 at 24 months, and .84 at 36 months	Home, childcare setting, and laboratory	Peer competence	Adaptive Social Behavior Inventory

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
25	National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71* (4), 960-980.	Quality of care was positively related to language and cognitive outcomes.	Adjusted r2 scores Bayley's: 0.013 Vocabulary production: 0.032 (p<.05) Vocabulary comprehension: 0.036 (p<.05)	Not reported
26	NICHD Early Child Care Research Network. (2001). Child care and children's peer interaction at 24 and 36 months: The NICHD study of early child care. *Child Development, 72* (5), 1478-1500.	1. Mothers' sensitivity and children's cognitive/language skills at 24 months were the strongest and most consistent correlates of peer social behavior at 36 months.	1a. Cognitive/language competence at 24 months was .11 (predictive); at 36 months it was .10. 1b. Maternal sensitivity at 24 months was .14; at 36 it was .09.	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
25	National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development, 71* (4), 960-980.	Not reported	Various childcare settings were observed.	Not reported	
26	NICHD Early Child Care Research Network. (2001). Child care and children's peer interaction at 24 and 36 months: The NICHD study of early child care. *Child Development, 72* (5), 1478-1500.	Not reported	Not reported	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
27	Poehlmann, J., & Fiese, B. H. (2001). Parent-infant interaction as a mediator of the relation between neonatal risk status and 12-month cognitive development. *Infant Behavior and Development, 24* , 171-188.	The Pediatric Infant Parent Exam (PIPE; Fiese et al., 2001)	Research	Reciprocity Positive affect	117 dyads; 84 at follow-up	5 to 9 months and then follow-up at 12 months; mostly White	Yes (low-birth weight infants and infants with medical conditions/complications at birth)	No	Live observation
28	Ryan, R. M., A. Martin, et al. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting: Science and Practice 6* (2 and 3): 211-228.	"Three bag" play session (NICHD Early Child Care Research Network, 1999)	Research	Supportiveness Detachment Negativity	237 mother-father-child triads	Mother-child and father-child dyads observed at 2 years (outcomes collected at 24 and 36 months). All families were low-income. All families are two-parent, residential families. Mothers: 65% European American, 20% African American, 12% Latin American.	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
27	Poehlmann, J., & Fiese, B. H. (2001). Parent-infant interaction as a mediator of the relation between neonatal risk status and 12-month cognitive development. *Infant Behavior and Development, 24* , 171-188.	Semi-structured (mothers identified an interactional game that the infant enjoyed playing such as peek-a-boo)	The interaction is scored based on the level of reciprocity and positive affect at the beginning, middle, and end of the game. During the three time segments, the interaction is scored on a scale from 1 to 6, with lower scores representing favorable interactions.	The mother played an interactional game with the child (length not specified); each participant completed one interaction with child	Yes	Researcher
28	Ryan, R. M., A. Martin, et al. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting: Science and Practice 6* (2 and 3): 211-228.	Semi-structured (free play activity) Parents were given three bags with different toys and instructed to play with child in any way.	Observations were scored with six 7-point scales adapted from the NICHD study's "three bag" assessment of mother-child interactions. The six scales score 1) sensitivity, 2) positive regard, 3) cognitive stimulation, 4) detachment, 5) negative regard, and 6) intrusiveness. Higher scores represented more of the observed behaviors.	10 minute "three bag" play sessions at 24 months (completed during hour-long home visits for the EHS Research and Evaluation Project).	No	Researchers at the National Center for Children and Families

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
27	Poehlmann, J., & Fiese, B. H. (2001). Parent-infant interaction as a mediator of the relation between neonatal risk status and 12-month cognitive development. *Infant Behavior and Development, 24* , 171-188.	Not reported	Raters were unaware of infant risk levels. Inter-rater reliability was 0.74 for exact agreement across all segments of the observation and 0.92 for agreement within one point across all segments.	Clinic setting	Cognitive development	Cognitive development: The Mental Scale (MDI) of the Bayley Scales of Infant Development
28	Ryan, R. M., A. Martin, et al. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting: Science and Practice 6* (2 and 3): 211-228.	Coders were trained to a criterion level of 85% agreement (exact or within one point) with the coding team leader on all scales.	Average agreement among coders ranged from 89-98% for the mother tapes and from 94-96% on the father tapes. Reliability checks were performed on 15% of a coder's weekly videos.	In the home during another study's home visits	Joint cognitive and language development	Joint cognitive and language measure: Bayley Mental Development Index section of Bayley Scales of Infant Development II

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
27	Poehlmann, J., & Fiese, B. H. (2001). Parent-infant interaction as a mediator of the relation between neonatal risk status and 12-month cognitive development. *Infant Behavior and Development, 24*, 171-188.	1. In the first regression model, neonatal risk predicted Bayley scores. 2. However, in the second regression model, when PIPE scores were added, PIPE scores had a positive effect on increasing Bayley scores and neonatal risk no longer predicted Bayley scores.	1. beta=-0.23, p<.05; R2=.14; Model F=3.25, p<.05 2. beta=-0.23, p<.05; R2=.19; Model F=3.60, p<.01	Because neonatal risk did not predict Bayley scores when PIPE scores were added in the second regression model, the positive interactions measured by the PIPE fully mediated the relationship between neonatal risk and cognitive functioning.
28	Ryan, R. M., A. Martin, et al. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting: Science and Practice 6* (2 and 3): 211-228.	1. Children with at least one supportive parent had better cognitive outcomes at 36 months than children with one supportive parent; children with no supportive parents scored the worst. The gender of the supportive parent did not matter. 2. Children with highly supportive mothers did 9.1 points better on the cognitive tests at 24 months than children with detached mothers. The gap was 12.2 points by 36 months. 3. Children with highly supportive fathers did 10.6 points better on the cognitive tests than children with negative fathers at 36 months (gap was not significant at 24 months). 4. Children with two supportive parents score 12.2 points higher at 24 months and 10.4 points higher at 36 months on cognitive tests than children with two unsupportive parents.	2. p<.05 3. p<.05 4. p<.05	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
27	Poehlmann, J., & Fiese, B. H. (2001). Parent-infant interaction as a mediator of the relation between neonatal risk status and 12-month cognitive development. *Infant Behavior and Development, 24* , 171-188.	An interaction term between the PIPE and neonatal risk was included in the final mediation model, but the interaction did not significantly predict the outcome variable.	The sample was mostly White.	Not reported	The PIPE was originally developed as a screening tool to be used in primary care settings.
28	Ryan, R. M., A. Martin, et al. (2006). Is one good parent good enough? Patterns of mother and father parenting and child cognitive outcomes at 24 and 36 months. *Parenting: Science and Practice 6* (2 and 3): 211-228.	For children with one supportive parent, the gender of that parent did not affect child outcomes.	All families were eligible for EHS participation.	The sample was entirely low-SES.	Martin, A., Ryan, R. M., & Brooks-Gunn, J. (2007). The joint influence of mother and father parenting on child cognitive outcomes at age 5. Early Childhood Research Quarterly, 22, 423–439 (also included in this review) is a follow-up to this study and more explicitly examines the joint affects of mother and father supportiveness levels.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
29	Shannon, J. D., Tamis-LeMonda, C. S., & Cabrera, N. J. (2006). Fathering in infancy: Mutuality and stability between 6 and 18 months. *Parenting: Science and Practice, 6* (2 and 3), 167-188.	Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES; Tamis-LeMonda, Rodriguez, Shannon, Ahuja, & Hannibal, 2002)	Research	Two factors of father engagement: Responsive-didactic Negative-overbearing (Interaction aspects that these factors were comprised of: positive affect, negative affect, emotional regulation, participation with caregiver, responsiveness to caregiver, emotional attunement, persistence, toy play and amount of communication)	74 fathers from the Father and Newborn Study (FANS) and their 8- and 16-month-old infants	Children measured at 8 and 16 months All families were low-income. 46% Latin American, 6% African American, 15% European American, 3% Chinese American	No	Yes (14 fathers spoke a language besides English)	Video observation
30	Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., et al. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. Developmental Psychology, 43(5), 1170-1186.	Coping With Toddlers' Negative Emotions Scale (Spinrad, Eisenberg, Kupfer, Gaertner, & Michalik, 2004) adapted from the Coping With Children's Negative Emotions Scale (Eisdenberg, Fabes, & Murphy, 1996)	Research	Sensitivity Warmth	256 dyads	18 months and then follow-up a year later; 77% non-Hispanic, 23% Hispanic; 81% Caucasian, 5% African American; 4% Native American, 2% Asian, less than 1% Pacific Islander; diverse annual family income; diverse parental education	No	No	Live observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
29	Shannon, J. D., Tamis-LeMonda, C. S., & Cabrera, N. J. (2006). Fathering in infancy: Mutuality and stability between 6 and 18 months. *Parenting: Science and Practice, 6* (2 and 3), 167-188.	Semi-structured (free play activity) Fathers were provided with an assortment of toys and instructed to play naturally with their child.	Father, infant and dyad behaviors in the areas of positive affect, negative affect, emotional regulation, participation with caregiver, responsiveness to caregiver, emotional attunement, persistence, toy play and amount of communication were rated on a five point Likert-type scale (1=behavior not observed to 5=behavior constantly observed).	8 minutes of free play at 8 months and 10 minutes of free play at 16 months	No	Trained coders
30	Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., et al. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. Developmental Psychology, 43(5), 1170-1186.	Semi-structured (mothers were presented with a basket of toys and they were asked to play as they normally would at home for 3 minutes and then a teaching paradigm was used in which mothers and toddlers were presented with a difficult puzzle and mothers were instructed to "teach their child to complete the puzzle" and they were given 3 minutes to complete the task [both T1 and T2])	Sensitivity was scored with a 4-point scale with lower scores representing low evidence of sensitivity and higher scores representing high evidence of sensitivity. Warmth was scored with a 5-point scale with lower scores representing low evidence of warmth and higher scores representing high evidence of warmth.	Mothers were rated for sensitivity every 15 seconds for 3 minutes for the free play and every 30 seconds for 3 minutes for the puzzle task. Mothers were rated for warmth every 30 seconds during the puzzle task.	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
29	Shannon, J. D., Tamis-LeMonda, C. S., & Cabrera, N. J. (2006). Fathering in infancy: Mutuality and stability between 6 and 18 months. *Parenting: Science and Practice, 6* (2 and 3), 167-188.	Two coders reached 85% agreement within one point on a Likert scale on ten sample tapes.	Inter-rater agreement ranged from 87% to 100% within one point. Inter-rater correlational reliability ranged form .71 to .97.	Not reported	Two factors of infant behavior at 8 months: Mastery Social-communicative Three factors of infant behavior at 16 months: Mastery Social Communicative	Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES)
30	Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., et al. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. Developmental Psychology, 43(5), 1170-1186.	Not reported	Interrater reliability for sensitivity was .81 and .86 for the free play at T1 and T2, respectively, and .81 and .82 for the puzzle task at T1 and T2, respectively. Interrater reliability for warmth was .83 at T1 and .73 at T2.	Laboratory	Effortful control and internalizing problems (i.e., separation distress, inhibition to novelty), externalizing problems, and social competence.	Effortful control: the toddler's ability to concentrate on a task, the toddler's ability to move attention from one activity to another, the toddler's ability to control his/her behavior (Attention-Focusing, Attention-Shifting, and Inhibitory-Control subscales of the Early Childhood Behavior Questionnaire). Externalizing problems and social competence: caregivers completed parts of the Infant/Toddler Social and Emotional Assessment (Carter et al., 2003)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
29	Shannon, J. D., Tamis-LeMonda, C. S., & Cabrera, N. J. (2006). Fathering in infancy: Mutuality and stability between 6 and 18 months. *Parenting: Science and Practice, 6* (2 and 3), 167-188.	1. Didactic-responsive fathering was associated with infant behavior at 8 and 16 months. Fathering at 8 months weakly predicted infant social behavior at 16 months. 2. Overall, fathers scored the highest on measures of participation, flexibility, toy play, structuring, and positive affect and the lowest on negative affect, negative non-verbal statements, and teasing. Most patterns were the same across 8 and 16 months. Fathers' earlier behaviors predicted later behaviors. 3. At 8 and 16 months infants overall scored higher on toy play and persistence and lower on negative affect and emotional attunement. Infants were more involved with fathers and toys, responsive, emotionally regulated, persistent and communicative at 16 months. 4. Infants with higher social-communication scores had fathers who were more responsive-didactic and less negative-overbearing at 8 and 16 months.	3. p<.05 4. Effect of responsive-didactic fathers at 8 months: r(74)=.41, p<.01, and at 16 months: r(74)=.22, p=.07. Effect of negative overbearing fathers at 8 months: r(74)=-.21, p<.05 (not significant at 16 months).	Not reported
30	Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., et al. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. Developmental Psychology, 43(5), 1170-1186.	Maternal observed sensitivity and warmth were generally negatively related to externalizing problems (aggression/defiance) and caregivers' reports of separation distress and were positively related to the child's social competence.	Maternal supportive parenting (i.e., sensitivity and warmth) was negatively related to externalizing problems p<.05; the influence of maternal supportive parenting on separation distress was mediated by effortful control (b=-.32); the influence of maternal supportive parenting on social competence was mediated by effortful control (b=.58)	Within each age, children's regulation significantly mediated the relation between supportive parenting and low levels of externalizing problems and separation distress, and high social competence.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
29	Shannon, J. D., Tamis-LeMonda, C. S., & Cabrera, N. J. (2006). Fathering in infancy: Mutuality and stability between 6 and 18 months. *Parenting: Science and Practice, 6* (2 and 3), 167-188.	Not reported	Not reported	The sample was entirely low-SES. 97% of families were in EHS or another early intervention program.	Measurements were based on father and infant behaviors related to interactions; unclear if aspects of the interaction were measured.
30	Spinrad, T. L., Eisenberg, N., Gaertner, B., Popp, T., Smith, C. L., Kupfer, A., et al. (2007). Relations of maternal socialization and toddlers' effortful control to children's adjustment and social competence. Developmental Psychology, 43(5), 1170-1186.	Not reported	Significant attrition occurred from T1 to T2 (33 dyads who participated in T1 did not remain in the study at T2) and the mothers who continued in the study at T2 were more educated and reported higher income.	Because the study involved only two timepoints, the researchers could not use the strongest test of mediation, which requires three timepoints.	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
31	Steelman, L. M., Assel, M. A., Swank, P. R., Smith, K. E., & Landry, S. H. (2002). Early maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Journal of Applied Developmental Psychology*, 23(2), 135-156.	Not given (developed by authors)	Research	Maternal warmth	252 mother-child dyads	Children assessed at 12, 24, 40, and 54 months All families were low-SES. Participants recruited from a University of Texas Department of Pediatrics longitudinal study Sample was 60% African American, 23% Caucasian, 14% Hispanic, 3% other	Not specifically (although the sample does include children born preterm, considered "biologically at-risk")	No	Live observation
32	Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development, 72* (3), 748-767.	Not given (developed by authors)	Research	Maternal responsiveness	40 dyads	9 to 10 months and then follow-up at 13 to 14 and 21 months; middle to upper class; Caucasian	No	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
31	Steelman, L. M., Assel, M. A., Swank, P. R., Smith, K. E., & Landry, S. H. (2002). Early maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Journal of Applied Developmental Psycholog*y, 23(2), 135-156.	Unstructured	Every 20 minutes, coders rated the mother on two five-point rating scales covering warm acceptance and flexibility/responsiveness. High scores in warm acceptance represented more warmth and enthusiasm during interactions with the child. High scores in flexibility/responsiveness represented a better ability of the mother to respond to their child's needs and pace their interactions. Low scores represented an absence of these behaviors (142).	60 minutes of naturalistic period of daily activity and 10 minutes of toy play	No	Trained coders
32	Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development, 72* (3), 748-767.	Semi-structured (children and mothers were asked to play on floor with toys)	Coding was based on the approach used by Borstein and Tamis-LeMonda (1989) and Borstein et al. (1992). A maternal response was defined as a positive response made to a child's behavior. For each maternal response, what the mother did was coded and based on six categories: affirmation of the child's actions, imitation of what child said, describing out loud the what the child was doing, asking questions, providing play prompts, and providing exploratory prompts. The responses were classified into the six categories. The frequency of the mother responding to the child's activities and the frequency of the mother's responses to the six categories were calculated. The scoring and/or scale used was not provided and therefore, directionality of the scale was not stated.	10 minutes	No	Not reported

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
31	Steelman, L. M., Assel, M. A., Swank, P. R., Smith, K. E., & Landry, S. H. (2002). Early maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Journal of Applied Developmental Psychology*, 23(2), 135-156.	Coders were trained across multiple sessions to achieve interrater agreement of at least .80 with the senior researchers who had developed the measure.	A second coder coded at least 20% of maternal and child observed behaviors to ensure interrater reliability. Generalizability coefficient for maternal warm responsiveness at 12 months was .85. Generalizability coefficient for child social skills at 54 months was .96	Home	Child social skills (child's verbalizations, joint attention with the mother, eye contact with the mother at 12 months and child's verbalizations, gestures, eye contact, positive affect, and compliance to the mother at 54 months) Potential mediators (maternal disciplinary preferences and child vocabulary) measured at 24 and 40 months	Researcher-developed measure is applied and coded during same maternal-child visits used to collect the interaction data Maternal disciplinary preference: Parental Discipline Vignettes questionnaire Child vocabulary: Sequenced Inventory of Communication Development Receptive and Expressive Scales at 24 months and the Clinical Evaluation of Language Fundamentals-Preschool Version at 40 months
32	Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development, 72* (3), 748-767.	Not reported	Random reliability checks at each age for each coder with kappa averaging .73 to .77.	Home	Language	Language: Early Language Inventory, MacArthur Communicative Development Inventories

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
31	Steelman, L. M., Assel, M. A., Swank, P. R., Smith, K. E., & Landry, S. H. (2002). Early maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Journal of Applied Developmental Psychology*, 23(2), 135-156.	1. Maternal warmth at 12 months was directly related to child social skills at 54 months. 2. Maternal warmth at 12 months is indirectly related to child social skills at 54 months through maternal discipline at 24 and 40 months; a mother who is warm is less likely to use punitive discipline which in turn facilitates social skills. 3. Child social skills at 12 months was related to maternal discipline at 24 months; child vocabulary at 40 months was related to maternal warmth at 54 months.	1. coefficient: .18, z=2.03, p<.05. 2. Standardized coefficients: maternal warmth at 12 months to maternal discipline at 24 months= -4.93; maternal discipline at 24 months to maternal discipline at 40 months= .91; maternal discipline at 40 months to child social skills at 54 months=-.12, p<.05 for all. 3. Standardized coefficients: child social skills at 12 months to maternal discipline at 24 months=-.12; child vocabulary at 40 months to maternal warmth at 54 months=.01, p<.05 for both.	Maternal disciplinary preferences at 24 and 40 months mediated the relationship between maternal warmth at 12 months and child social skills at 54 months. Child language was not a mediator of maternal warmth and child social skills, but there were reciprocal relationships between maternal and child variables.
32	Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development, 72*(3), 748-767.	Maternal responsiveness and child acts at 9 months predicted four of the five language milestones (first imitation, first words, 50 words, and combinatorial speech but did not predict first use of language to talk about the past) at 21 months. However, when maternal responsiveness was above the children's activities, the child variables did not continue to predict child language milestones over and above mother. Therefore, the analyses only focused on mother-over-child analyses. As a result maternal responsiveness predicted: 1. First imitations (responses with descriptions) 2. First words (response with affirmation, descriptions, and play prompts) 3. 50 words (responses with play prompts) 4. Combinatorial speech (responses with play prompts) Maternal responsiveness and child acts at 13 months predicted all three language milestones (50 words, combinatorial speech, and first use of language to talk about the past) at 21 months. However, when maternal responsiveness was above the children's activities, the child variables did not continue to predict child language milestones over and above mother. Therefore, the analyses only focused on mother-over-child analyses. As a result maternal responsiveness predicted: 1. 50 words (responses with imitations) 2. Combinatorial speech (responses with imitations, responses with play prompts) 3. First use of language to talk about the past (responses with imitations, responses with questions)	9 Months 1. 9.6 (p<.01) 2. 4.0 (p<.05); 4.0 (p<.05); 4.2 (p<.05) 3. 4.2 (p<.05) 4. 6.5 (p<.01) 13 Months 1. 13.3 (p<.001) 2. 8.4 (p<.01); 4.7 (p<.05) 3. 5.3 (p<.05); 4.8 (p<.05)	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
31	Steelman, L. M., Assel, M. A., Swank, P. R., Smith, K. E., & Landry, S. H. (2002). Early maternal warm responsiveness as a predictor of child social skills: Direct and indirect paths of influence over time. *Journal of Applied Developmental Psycholog* y, 23(2), 135-156.	There were some differences in the social skill levels of preterm and term children, but the relation of the variables of interest to the outcomes did not differ for preterm and term children, so it was not a moderator.	Not reported	The sample was entirely low-SES.	Maternal warmth increased between infancy and preschool for 50% of the mothers in the sample. Some of the outcomes measures are also based on mother-child interactions, but are here considered child outcomes and are predicted by earlier interactions.
32	Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development, 72* (3), 748-767.	Not reported	Middle to upper class; Caucasian	Not reported	

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
33	Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & E. Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75* (6), 1806-1820.	"Three bag" task	Research	Sensitivity Positive regard Cognitive stimulation Detachment Intrusiveness Negative regard	290 children observed with both fathers and mothers separately	24 months; diverse; low-income	No	No	Video observation
34	Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. *Autism, 12* (5), 575–594.	Parent-Child Interaction Rating Scale (PCIRS; Sosinsky et al., 2004)	Research	Supportive engagement Cognitive engagement Disengaged	63 dyads	32 months with standard deviation of 7.10 months; 76% males	Yes (autism)	No	Not reported

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
33	Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & E. Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75* (6), 1806-1820.	Semi-structured (father or mother were asked to play with child with toys given to them by investigator)	Observations were scored with six parent dimensions on a 7-point scale (1 being very low and 7 being very high) that were adapted from the NICHD study's "three bag" assessment of mother-child interactions. The six dimensions included sensitivity, positive regard, cognitive stimulation, intrusiveness, detachment, and negative regard.	10 minutes of free play with each parent and interactions coded based on NICHD Study of Early Child Care's Three Box scales	No	Consisted of "coding team leader" that worked with coding teams
34	Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. *Autism, 12* (5), 575–594.	Semi-structured (child and mother were given a container of toys and asked to play with them)	The interaction was observed, and fifteen variables (sensitivity, supportive presence, intrusiveness, promotion of autonomy, positive regard, negative regard, affective mutuality, mutual enjoyment, stimulating cognitive development, language quality, joint attention, reciprocal interaction, flat affect, language amount, and detachment) were scored on a 7-point scale. On the mutual enjoyment dimension, a 3 was considered moderately low. Aside from that reference, the anchor scores on the Likert scale was not provided and therefore, directionality of the scale was not stated.	7 minutes	No	Advanced graduate student in clinical psychology and PhD level psychologist

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
33	Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & E. Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75* (6), 1806-1820.	Coding teams consisted of 5 to 6 people; coders blind to child's performance on tests; fluent in language of the child and parent	Inter-rater reliability was done in 15% of the sample; agreement ranged from 84-100%	Home	Language and cognitive development	Cognitive development: Bayley Scales of Infant Development 2nd edition Language development: Peabody Picture Vocabulary Test 3rd edition
34	Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. *Autism, 12* (5), 575–594.	Not reported	Inter-rater reliability was 0.77 to 0.92.	Home	Developmental skills Social and emotional functioning	Development skills: Mullen Scales of Early Learning (fine motor skills, visual reception, and receptive and expressive language) Social and emotional functioning: Infant Toddler Social Emotional Adjustment Scales (ITSEA) (identifies potential problems related to social and emotional functioning)

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r*, adjusted *r*, beta where possible)	Mediators affecting the associations
33	Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & E. Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75* (6), 1806-1820.	1. Mothers that displayed sensitivity, positive regard, cognitive stimulation, intrusiveness, and negative regard were correlated with children's language development. 2. Mothers that displayed sensitivity, positive regard, cognitive stimulation, detachment, & intrusiveness were correlated with children's cognitive development 3. Fathers displayed sensitivity, positive regard, & cognitive stimulation were correlated with children's language development. 4. Fathers that displayed sensitivity, positive regard, cognitive stimulation, detachment, and intrusiveness were correlated with children's cognitive development 5. Correlation between mother's parenting and child's cognitive and language development. 6. Correlation between father's parenting and child's cognitive and language development.	Associations between parenting and child outcomes 1. .38, .20, .37, -.25, -.14 2. .38, .29, .37, -.16, -.18 3. .26, .25,.25 4. .30, .22, .30, -.17, -.18 5. r2 = .13, .10 6. r2 = .07, .08	Not reported
34	Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. *Autism, 12* (5), 575–594.	1. Supportive engagement was negatively correlated with ITSEA atypical ratings. 2. Cognitive engagement was positively correlated with Mullen VIQ, Mullen NVIQ, & ITSEA social relatedness.	1. (-0.27, p<0.01) 2. Mullen VIQ (0.35, p<0.01), Mullen NVIQ (0.32, p<0.05), and ITSEA social relatedness (0.43, p<.01)	Not reported

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
33	Tamis-LeMonda, C. S., Shannon, J. D., Cabrera, N. J., & E. Lamb, M. (2004). Fathers and mothers at play with their 2- and 3-year-olds: Contributions to language and cognitive development. *Child Development, 75* (6), 1806-1820.	Not reported	Not reported	Not reported	
34	Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. *Autism, 12* (5), 575–594.	Not reported	Not reported	Not reported	The measure hadn't been used to code interactions between mothers and children with autism. Dyadic codes were adapted to facilitate greater score variability. For example, mutual enjoyment, a 3 was scored if one member of the dyad displayed enjoyment while the other did not. Supportive engagement (mean factor loading = 0.72; Cronbach's alpha = 0.92) Cognitive engagement (mean factor loading = 0.69; Cronbach's alpha = 0.76) Disengaged interaction (mean factor loading = 0.78; Cronbach's alpha = 0.72) Supportive engagement, cognitive engagement, and disengaged interaction accounted for 72 percent of the variance in the 11 parent and four dyadic codes that were rated.

		Study & Measure Characteristics							
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver-Child Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**	**Dual Language Learner**	
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver-child interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does sample include children with special needs?	Does sample include children who are dual language learners?	Live observation vs. Video observation
35	Warren, S.L. & Simmens, S.J. (2005). Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal, 26* (1), 40-55.	Not given (developed by authors) and adaptation of NICHD three bag task (NICHD Early Child Care Research Network, 1999)	Research	Maternal sensitivity Maternal intrusiveness Positive regard	1, 226 mother-child dyads	Observations at 5 and 15 months. Outcome data collected at 24 and 36 months Data from the NICHD Early Child Care study Sample was 82% White, 12% Black, 6% Hispanic, 4.6% other.	Not specifically (although the sample does include children with temperaments vulnerable to anxiety/depressive symptoms as determined by mothers and other caregiver ratings at 1 and 6 months)	No	Video observation

	Publication Information	**Types of Observation**				
#	Study citation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of time samples)	Is interview data used for scoring the caregiver-child interaction?	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)
35	Warren, S.L. & Simmens, S.J. (2005). Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal, 26* (1), 40-55.	Semi-structured (natural play with own toys then natural play with provided toys)	Observed constructs were maternal sensitivity when child was not distressed, maternal intrusiveness, and positive regard for the child. Each construct was rated on a 4-point scale then summed into a composite. Higher scores signified that positive behaviors were highly characteristic of the interaction and lower scores signified that the positive behaviors were not at all characteristics of the interaction.	At 6 months: mothers play with their child for 7-8 minutes with their own toys then for 7-8 minutes with researcher provided toys At 15 months: mother are given three bags with different toys and told to play naturally with their child for 15 minutes	No	Trained coders

		Rater and Setting Information				
	Publication Information	**Rater Characteristics**		**Setting**	**Measurement(s) of Child Outcome**	**Child Outcome Measure Operationalization**
#	Study citation	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).	How the child outcome measures were operationalized in the study.
35	Warren, S.L. & Simmens, S.J. (2005). Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal, 26* (1), 40-55.	Coders were "extensively trained" (p. 46) (percentage agreement was not reported).	Interclass correlation was .87 at six months was .83 at 15 months. Interrater reliability checks done on 19-20% of tapes each assessment period.	Home	Social-emotional development (anxiety/depressive symptoms at ages 2 and 3)	Anxiety/depressive subscale from the Child Behavior Checklist (mother and caregiver report).

		Findings		
	Publication Information	**Outcomes Related to the Caregiver-Child Interaction and Child Outcomes**	**Strength of Association**	**Mediators**
#	Study citation	Summary of study findings related to the caregiver-child interaction and child outcomes	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)	Mediators affecting the associations
35	Warren, S.L. & Simmens, S.J. (2005). Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal, 26* (1), 40-55.	1. Maternal sensitivity at 6 and 15 months predicted to significantly lower levels of anxiety/depressive symptoms age ages 2 and 3. 2. Children with the most vulnerable personality type were most likely to have lower anxiety/depressive symptoms at age 2 if they had sensitive mothers.	1. r= -.24 (p<.01), beta= -.14, p=.0005 for boys at age two; r= -.27 (p<.01), beta= -.16, p<.0001 for boys at age 3; r= -.18 (p<.01), beta= -.08, p= .07 for girls at age 2; r= -.11 (p<.01), beta=0, p=.97 for girls at age 3. 2. Interaction of difficult temperament and maternal sensitivity: beta=-.20, p=.006 for boys at age 2; beta=-.08, p=.03 for boys at age 3; beta=-.01, p=.87 for girls at age 2; beta=.05, p=.23 for girls at age 3.	Maternal sensitivity mediated the relationship between vulnerable child temperament and later anxiety/depressive symptoms. Children with the most vulnerable personality type were most likely to have lower anxiety/depressive symptoms at age 2 if they had sensitive mothers.

	Publication Information	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
35	Warren, S.L. & Simmens, S.J. (2005). Predicting toddler anxiety/depressive symptoms: Effects of caregiver sensitivity on temperamentally vulnerable children. *Infant Mental Health Journal, 26* (1), 40-55.	Maternal sensitivity predicted decreases in temperamentally difficult boys and were more likely to have decreased anxiety/depressive symptoms at age 3 than girls.	Not reported	Not reported	Higher maternal separation anxiety, depressive symptoms, and infant temperament difficulty were associated with more child anxiety/depressive symptoms at age 2 and 3.

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
1	Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation: Early parenting precursors of young children's executive functioning. *Child Development, 81* (1), 326-339.	Maternal Behavioral Q-Sort (Pederson & Moran, 1995)	Research	Maternal sensitivity and maternal mind-mindedness (the parent's tendency to use mental terms while talking to the child)	80 dyads	12 months to 15 months and then follow-up at 18 months and 26 months; middle class living in a large Canadian metropolitan area; a variety of economic levels; mostly Caucasian	No
2	Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. Pediatrics, 110, 16-26. doi: 10.1542/peds.110.1.16	Mother-Newborn Coding System (Feldman, 1998)	Research	Maternal gaze, affect, touch, talk, and maternal adaptation and intrusiveness	73 dyads	27 weeks and then follow-up at 3 months; all middle-class in the Israeli population	Yes (pre-term infants)

		& Measure Characteristics				
	Publication Information	**Dual Language Learner**	**Types of Observation**			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
1	Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation: Early parenting precursors of young children's executive functioning. *Child Development, 81* (1), 326-339.	No	Video observation	Structured (puzzle teaching task) and semi-structured (free play)	Four 5-point Likert scales assessed the extent to which the mother 1) intervenes according to the infant's needs and adapts the task to create an optimal challenge, 2) encourages her child in the pursuit of a task, 3) takes her child's perspective and demonstrates flexibility in her attempts to keep the child on task, and 4) follows her child's pace. The anchor scores on the Likert Scale was not provided and therefore, directionality of the scale was not stated.	Four visits were conducted when the child was 12-13 months, 15, 18, and 26 months; home visits were conducted at T1, T2, and T4, while T3 consisted of a laboratory visit. All visits lasted between 70 and 90 minutes.
2	Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. Pediatrics, 110, 16-26. doi: 10.1542/peds.110.1.16	No	Video observation	Unstructured	For each 10-second epoch, the coders marked 1 of several behaviors along 5 categories. Categories and behaviors were as follows: maternal gaze (toward infant, toward stranger, ambiguous, gaze aversion), maternal affect (positive, negative, neutral), maternal touch (touch, hug, cradle, stimulate), maternal talk (to infant, to stranger, sing, "motherese"), and infant state (fuss, cry, alert-scanning, gaze aversion, sleep). In addition, mother-infant interaction was rated on a 5-point scale for maternal adaptation and intrusiveness with higher scores representing high maternal adaptation and intrusiveness.	10 minutes

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
1	Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation: Early parenting precursors of young children's executive functioning. *Child Development, 81* (1), 326-339.	No	Researcher	Not reported	Interrater reliability was satisfactory, ICC=.89.	Home and laboratory	Executive functioning: working memory, impulse control, and set shifting
2	Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. Pediatrics, 110, 16-26. doi: 10.1542/peds.110.1.16	No	Psychologist	Not reported	0.93	Laboratory	Perceptual-cognitive and motor development

				Findings
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
1	Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation: Early parenting precursors of young children's executive functioning. *Child Development, 81* (1), 326-339.	18 months: Hide the Pots (child was asked to retrieve hidden sticker under a pot), Categorization (child was asked to sort toys) 26 months: Spin the Pots (child was asked to retrieve hidden sticker under a pot that was rotated among other pots to make more difficult), Delay of Gratification (child was asked to wait until a bell was rung to retrieve a present), Shape Stroop (child was asked to identify fruits by size), and Baby Stroop (child was asked to feed a doll).	Mothers who were more sensitive with their 12 month old child had children performing better on Conflict executive functioning (EF) at 26 months. Children also tended to perform better on working memory at 18 months if mother was more sensitive at 12 months. Autonomy support is the aspect of parenting that was most related to age-specific indices of child EF.	p<.01
2	Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. Pediatrics, 110, 16-26. doi: 10.1542/peds.110.1.16	Bayley Scales of Infant Development, 2nd edition (Bayley-II)	Kangaroo Care (skin to skin contact for at least one hour on each of 14 consecutive days) intervention had a significant positive effect on the infants' perceptual-cognitive and motor development.	Maternal sensitivity SD=.64; Infant social involvement SD=.68

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
1	Bernier, A., Carlson, S. M., & Whipple, N. (2010). From external regulation: Early parenting precursors of young children's executive functioning. *Child Development, 81* (1), 326-339.	Not reported	Not reported	Not reported	Not reported	
2	Feldman, R., Eidelman, A. I., Sirota, L., & Weller, A. (2002). Comparison of skin-to-skin (kangaroo) and traditional care: Parenting outcomes and preterm infant development. Pediatrics, 110, 16-26. doi: 10.1542/peds.110.1.16	Not reported	Not reported	Not reported	All middle class participants from Israel	

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
3	Feldman, R., Masalha, S., & Alony, D. (2006). Microregulatory patterns of family interactions: Cultural pathways to toddlers' self-regulation. *Journal of Family Psychology, 20* (4), 614-623. doi: 10.1037/0893-3200.20.4.614	Not given (developed by authors)	Research	Patterns of gaze Affect Proximity Touch Parental teaching strategies Specific subscales were parent-infant contact, mother-father contact, face-to-face position, parent touch, infant touch, parent social gaze, gaze aversion, infant social gaze, parent toy presentation, infant negative emotionality, and parent positive affect	162 triads	Observation at 5 and 33 months and outcomes at 33 months All families were dual-earner couples. 100 of the triads were Israeli (Jewish) couples and their child, and 62 of the triads were Palestinian (Muslim and Christian) couples and their child.	No

		& Measure Characteristics				
	Publication Information	Dual Language Learner	Types of Observation			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
3	Feldman, R., Masalha, S., & Alony, D. (2006). Microregulatory patterns of family interactions: Cultural pathways to toddlers' self-regulation. *Journal of Family Psychology, 20* (4), 614-623. doi: 10.1037/0893-3200.20.4.614	No	Video observation	Semi-structured (parents were instructed to play naturally with their children; the families were offered toys to use, but some families used the infant's own toys)	A computerized coding system called the Observer (Noldus Co., Wageningen, the Netherlands) was used to code the subscales of parent-infant contact, mother-father contact, face-to-face position, parent touch, infant touch, parent social gaze, gaze aversion, infant social gaze, parent toy presentation, infant negative emotionality, and parent positive affect. Behaviors were coded bidirectionnaly for the dyads and for each participant seperately for the observed behaviors. The coding scheme consisted of recording the number of times a behavior was observed (i.e. number of times the infant touched the parent) or the proportion of time during which a behavior was observed (i.e. the proportion of time the parent was displaying a positive affect).	Observations completed during 2 hour home visits at 5 and 33 months and a 1.5 hour observation in the child care setting at 33 months

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
3	Feldman, R., Masalha, S., & Alony, D. (2006). Microregulatory patterns of family interactions: Cultural pathways to toddlers' self-regulation. *Journal of Family Psychology, 20* (4), 614-623. doi: 10.1037/0893-3200.20.4.614	No	Israeli and Arab coders	Not reported	Reliability on each of the 25 interactions exceeded 87% and averaged at 92%.	In the home at 5 and 33 months	Self-regulation at 33 months

			Findings	
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
3	Feldman, R., Masalha, S., & Alony, D. (2006). Microregulatory patterns of family interactions: Cultural pathways to toddlers' self-regulation. *Journal of Family Psychology, 20* (4), 614-623. doi: 10.1037/0893-3200.20.4.614	In the home: Mother-father-child triads were given a matching block activity; coded with Observer method In child care setting: The Nursery Assessment Scale (coder records an ongoing narrative of child environment, activities, and behavior)	1. For Israelis, parental social gaze and parental touch at 5 months and indirect teaching at 33 months predicted to self-regulation at 33 months. 2. For Palestinians, parental contact, less negative affect and concrete assistance at 5 months predicted to self-regulation at 33 months. 3. At 33 months, Israeli parents provided more indirect teaching while Palestinian parents provided more concrete assistance.	1. Social Gaze: beta=.27, R^2=.08, p<.05. Touch: beta=.23, R^2=.06, p<.05. Indirect teaching: beta=.36, R^2=.08, p<.01. 2. Contact: beta=.36, R^2=.07, p<.05. Negative affect: beta=-.33, R^2=.07, p<.05. Concrete assistance: beta=-.31, R^2=.07, p<.05. 3. p<.001.

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
3	Feldman, R., Masalha, S., & Alony, D. (2006). Microregulatory patterns of family interactions: Cultural pathways to toddlers' self-regulation. *Journal of Family Psychology, 20* (4), 614-623. doi: 10.1037/0893-3200.20.4.614	Not reported	There were no differences in self-regulation levels in child care between Israeli or Palestinian toddlers, but Israeli children scored higher on mobilizing actions to requests ($p<.05$) and Palestinian children scored higher on inhibiting action to prohibition ($p<.05$). Different aspects of mother-father-child interactions predicted to self-regulation levels at 33 months for Israeli and Palestinian children (parental social gaze, parental touch and indirect teaching for Israelis and parental contact, less negative affect, and concrete assistance for Palestinians). Israeli children receiving indirect teaching above the median split scored higher on self regulation than those receiving low indirect teaching (M=3.83, SD=.51 for high, M=3.46, SD=.57 for low). Palestinian children receiving high indirect teaching had scored lower on self-regulation than those receiving low indirect teaching (M=3.26, SD=.77 for high, M=4.05, SD=.84 for low).	All families were Israeli or Palestinian	The Israeli culture was theorized to represent an individualistic approach/viewpoint to growth and self, while the Arab-Palestinian culture was theorized to represent a collective approach/viewpoint.	

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
4	Forcada-Guex, M., Pierrehumbert, B., Borghini, A., Moessinger, A., & Muller-Nix, C. (2006). Early dyadic patterns of mother-infant interactions and outcomes of prematurity at 18 months. *Pediatrics, 118* (1), 107-114. doi: 10.1542/peds.2005-1145	Care Index, 3rd revision (Crittenden, 1988)	Research	Mother's behavior on 3 constructs: Sensitivity Control Unresponsiveness Infant's behavior on 4 constructs: Cooperation Compliance Difficult Passivity	72 dyads	6 months (corrected age), outcomes at 18 months, 47 were pre-term infants and 25 were full-term infants	Yes (pre-term babies)
5	Koren-Karie, N., D. Oppenheim, et al. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. Developmental Psychology 38(4): 534-542.	Maternal Sensitivity scale (Biringen et al., 1993)	Research	Maternal insightfulness Maternal sensitivity	129 dyads	12 month olds, Israeli families	No

		& Measure Characteristics				
	Publication Information	Dual Language Learner	Types of Observation			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
4	Forcada-Guex, M., Pierrehumbert, B., Borghini, A., Moessinger, A., & Muller-Nix, C. (2006). Early dyadic patterns of mother-infant interactions and outcomes of prematurity at 18 months. *Pediatrics, 118* (1), 107-114. doi: 10.1542/peds.2005-1145	No	Video observation	Semi-structured (mother was asked to play freely with her child and choose from a selection of predetermined toys)	Each of the items listed in the elements column was rated on a scale from 0 to 7. The anchor scores on the Likert scale were not provided and therefore, directionality of the scale was not stated.	10 minutes
5	Koren-Karie, N., D. Oppenheim, et al. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. Developmental Psychology 38(4): 534-542.	No	Video observation	Structured (there was a structured play activity where mothers were asked to interest children in new toys, a diapering activity, and a maternal distraction activity where the mother had to fill out some surveys in the child's presence) Semi-structured (a week or two later the mother and child visited the lab and were observed in a free play activity)	Maternal sensitivity was rated on a 9-point scale with 9 representing optimal sensitivity.	6 minutes (the first 2 minutes of each interaction) during the home visit, and 10 minutes during the laboratory observation

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
4	Forcada-Guex, M., Pierrehumbert, B., Borghini, A., Moessinger, A., & Muller-Nix, C. (2006). Early dyadic patterns of mother-infant interactions and outcomes of prematurity at 18 months. *Pediatrics, 118* (1), 107-114. doi: 10.1542/peds.2005-1145	No	1 of 2 raters was certified by the measure's developer.	Two raters were trained.	Not reported	Clinical setting	Physical Emotional
5	Koren-Karie, N., D. Oppenheim, et al. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. Developmental Psychology 38(4): 534-542.	Yes (see comments)	Not reported	Training was provided by one of the scale's developers.	0.88	Home Clinical setting	Social-emotional

				Findings
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
4	Forcada-Guex, M., Pierrehumbert, B., Borghini, A., Moessinger, A., & Muller-Nix, C. (2006). Early dyadic patterns of mother-infant interactions and outcomes of prematurity at 18 months. *Pediatrics, 118* (1), 107-114. doi: 10.1542/peds.2005-1145	The Symptom Check List (SCL- includes sleeping problems, eating problems, psychosomatic problems, and behavioral/emotional disorders) Griffiths developmental scales (measures 5 scales- locomotor, personal-social, hearing and speech, hand-eye coordination, and performance)	1. Pre-term infants experiencing a controlling pattern relationship had higher scores on the total SCL than full-term infants. 2. Pre-term infants experiencing a controlling pattern relationship also had higher scores on eating problems than both the full-term control group and the infants experiencing a cooperative pattern relationship. 3. Pre-term infants experiencing a controlling pattern relationship also had lower scores on the Griffiths developmental personal-social score than full-term infants. 4. Controlling pre-term dyads had lower Griffith hearing-speech scores than cooperative pre-term dyads. 5. "Other" pre-term dyads (any children not experiencing either a controlling or a cooperative relationship, could be any combination of parent and child characteristics) had higher scores on the Griffiths performance subscale than term infants. Dyads experiencing a "controlling" pattern had a controlling mother and a compulsive-compliant infant. For infants experiencing a cooperative pattern relationship with their mothers, there were no differences in outcomes between pre-term and full-term infants. (Dyads experiencing a "cooperative" pattern relationship had a sensitive mother and a cooperative-responsive infant.)	1. 1.47 (term dyads) vs. 1.72 (controlling pre-term dyads) 2. 1.45 (pre-term controlling dyads) vs. 1.12 (term dyads) and 1.02 (cooperative pre-term dyads) 3. 110 (pre-term controlling) vs. 119 (term) 4. 105 vs. 119 5. 127 vs. 120
5	Koren-Karie, N., D. Oppenheim, et al. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. Developmental Psychology 38(4): 534-542.	Attachment (Strange Situation)	1. Maternal sensitivity varied significantly based on the child's attachment classification. 2. Maternal sensitivity was higher for mothers of securely attached infants than mothers of avoidant infants, ambivalent infants, and disorganized infants. No significant differences were found amongst the insecurely attached groups.	1. F=5.70 ($p<0.01$) 2. mean for securely attached group = 6.42 mean for avoidant group = 5.65 mean for ambivalent group = 6.16 mean for disorganized group = 6.07

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
4	Forcada-Guex, M., Pierrehumbert, B., Borghini, A., Moessinger, A., & Muller-Nix, C. (2006). Early dyadic patterns of mother-infant interactions and outcomes of prematurity at 18 months. *Pediatrics, 118* (1), 107-114. doi: 10.1542/peds.2005-1145	Not reported	Not reported	Study took place at a hospital in Switzerland	Not reported	
5	Koren-Karie, N., D. Oppenheim, et al. (2002). Mother's insightfulness regarding their infants' internal experience: Relations with maternal sensitivity and infant attachment. Developmental Psychology 38(4): 534-542.	Not reported	Not reported	Not reported	Not reported	This study creates its own measure of maternal insightfulness by showing mothers videotapes of their interactions with their infants and asking a series of questions about the interaction. The authors also create a measure of maternal sensitivity. This summary only reports on maternal sensitivity based on the observed interaction and its relation to outcomes rather than the relationship between maternal insightfulness and outcomes.

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
6	Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care, 30* (2), 135-150.	Nursing Child Assessment Teaching Scale (NCATS; Barnard, 1978)	Research	Interaction (response to distress, socioemotional growth fostering, cognitive growth fostering, and sensitivity to cues)	108 dyads	3 months with follow-up at 12 and 18 months; Canadian; White	Yes (preterm babies)
7	Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychiatry, 42* (5), 637-648.	Ainsworth's scale (Ainsworth et al., 1971) and a coding scheme developed by the authors	Research	Maternal sensitivity Mind-mindedness	71 dyads	6 month olds (follow-up at 12 months), families live in the English Midlands in the UK and were lower-middle class	No
8	Pierrehumbert, B., Ramstein, T., Karmaniola, A., Miljkovitch, R., & Halfon, O. (2002). Quality of child care in the preschool years: A comparison of the influence of home care and day care characteristics on child outcome. *International Journal of Behavioral Development, 26* (5), 385-396.	Not given (developed by authors)	Research	Positive characteristics of child care settings: availability, stimulation, firmness, warmth, autonomy, achievement, & organization.	106 dyads	2 year with follow-up at 3 years	No

		& Measure Characteristics				
	Publication Information	**Dual Language Learner**	**Types of Observation**			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
6	Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care, 30* (2), 135-150.	No	Live observation	Unstructured	Seventy-three behaviors were scored as observed or not observed during the parent-child interaction. For the parent, four subscales were summed (response to distress, socioemotional growth fostering, cognitive growth fostering, and sensitivity to cues). For the child, two subscales were summed (clarity of cues and responsiveness to caregiver). Higher scores indicted positive interactions.	2, two hour naturalistic observation
7	Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychiatry, 42* (5), 637-648.	No	Video observation	Semi-structured (the mother was instructed to play with her child as she would at home; the room contained several floor cushions, comfortable easy chairs, and age-appropriate toys for the child)	The maternal sensitivity scale was a global rating on a scale of 1 to 9. Mind-mindedness was scored based on five maternal behaviors that were displayed at least once during the interaction by each dyad. Each behavior was scored differently; for details see pgs. 640-641.	20 minutes (began after 5 minute settling-in period)
8	Pierrehumbert, B., Ramstein, T., Karmaniola, A., Miljkovitch, R., & Halfon, O. (2002). Quality of child care in the preschool years: A comparison of the influence of home care and day care characteristics on child outcome. *International Journal of Behavioral Development, 26* (5), 385-396.	No	Live observation	Unstructured (experimenter observed dyads in the childcare setting and used a time-sampling paper and pencil observation instrument which the authors called the OLiVE)	The observers either code the interaction has either demonstrating or not demonstrating certain items on the OLiVE. The anchor scores of the scale was not provided and therefore, the directionality of the scale was not stated.	Observations last about 1.5 hours.

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
6	Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care, 30* (2), 135-150.	No	Research assistants	Two research assistants; trained for reliability with standardized films	Interrater reliability was assessed on 10% of home observations. Agreement averaged 90% for mothers and 96% for fathers. K=0.61 to 0.65	Home-based program	Motor and cognitive development; language development
7	Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychiatry, 42* (5), 637-648.	No	Trained researchers	Not reported	One fifth of the tapes were coded by a second researcher, kappa=0.86 for Ainsworth's scale on maternal sensitivity. Kappa=0.90 for rater level of agreement when sorting maternal behaviors into different dimensions for the mind-mindedness coding scheme.	Clinical setting	Cognitive, social-emotional
8	Pierrehumbert, B., Ramstein, T., Karmaniola, A., Miljkovitch, R., & Halfon, O. (2002). Quality of child care in the preschool years: A comparison of the influence of home care and day care characteristics on child outcome. *International Journal of Behavioral Development, 26* (5), 385-396.	Yes	Experimenter	Not reported	Internal consistency: availability (.80), stimulation (.76), firmness (.87), warmth (.87), autonomy (.57), achievement (.82), and organization (.66).	Childcare setting	Behavior problems Personality Developmental quotient Attachment

			Findings	
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
6	Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care, 30* (2), 135-150.	Motor and cognitive development: McCarthy Scales of Children's Abilities Language development: Clinical Evaluation Language Fundamentals-Preschool	1. Mother-child interaction at 12 months was positively correlated with child's receptive language at 4 years.	1. T=1.97 ($p \leq .05$)
7	Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychiatry, 42* (5), 637-648.	General cognitive abilities (mental scale from the Bayley Scales of Infant Development) and attachment (Strange Situation)	1. Securely attached infants had mothers with higher maternal sensitivity than insecurely attached infants. 2. Two of the mind-mindedness constructs varied significantly for securely vs. insecurely attached infants- maternal responsiveness to infant's object-directed action and mothers' appropriate mind-related comments. 3. Maternal sensitivity was a predictor of attachment status. 4. Appropriate mind-related comments was a predictor of attachment status. Infants' Bayley scores were not correlated with any of the maternal sensitivity constructs or the mind-mindedness constructs.	1. maternal sensitivity=5.8 for securely attached infants, maternal sensitivity=4.5 for insecurely attached infants ($p<0.025$) 2. t-value 1.92, t-value 4.34, respectively 3. Maternal sensitivity accounted for 6.5% of the variance in attachment status. 4. Mind-related comments accounted for an additional 12.7% of the variance in attachment status.
8	Pierrehumbert, B., Ramstein, T., Karmaniola, A., Miljkovitch, R., & Halfon, O. (2002). Quality of child care in the preschool years: A comparison of the influence of home care and day care characteristics on child outcome. *International Journal of Behavioral Development, 26* (5), 385-396.	Behavior problems: Child Behavior Checklist Personality: California Child Q-set Developmental quotient: McCarthy scales Attachment: Attachment Story Completion Task	When controlling for rates of non-parental care, gender, and SES, type of care was positively correlated with child's ego-resiliency. Children in center-based care performed better than children in family-based care.	r=.25 ($p<.05$)

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
6	Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care, 30* (2), 135-150.	Not reported	Not reported	Not reported	Not reported	The attrition rate was 14%, but those that dropped out didn't differ from those that continued in the study.
7	Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *Journal of Child Psychiatry, 42* (5), 637-648.	Not reported	Not reported	Not reported	Ainsworth developed both the global rating scale for maternal sensitivity and the Strange Situation; it may not be appropriate to use one as a predictor and the other as an outcome.	This international study may be "value-added" to the Q-CCIIT project because it uses Ainsworth's maternal sensitivity scale.
8	Pierrehumbert, B., Ramstein, T., Karmaniola, A., Miljkovitch, R., & Halfon, O. (2002). Quality of child care in the preschool years: A comparison of the influence of home care and day care characteristics on child outcome. *International Journal of Behavioral Development, 26* (5), 385-396.	Not reported	Not reported	Varying childcare settings; study takes place in Switzerland	Not reported	The attrition rate was 16%.

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
9	Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73* (2), 483-495.	Not given (developed by authors)	Research	Maternal intrusiveness Maternal derisiveness	108 dyads	2 years with follow-up at 4 years; White; Canadian	No

		& Measure Characteristics				
	Publication Information	**Dual Language Learner**	**Types of Observation**			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
9	Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73* (2), 483-495.	No	Video observation	Structured (mothers were asked to play, have snack, and cleanup with child) The first session used the Behavioral Inhibition Paradigm. Each dyad played for 10 minutes and then throughout session various strangers would enter room and either be in the room, sit by the child, or ask the child to play. In the second session, mothers were asked to interact with child during play, snack and clean up time.	During clean-up, mothers were rated on a 5-point scale as to the level of cleaning up with child (1 being that they didn't participate in the clean up and 5 being they did all the cleaning up). During free play, the mother was coded as to whether she did or did not offer physical affection and whether or not the child was scolded during play. During snack time, mother's positive affect was recorded as either being absent, present, moderate, or high. During snack time, free play, and clean up, time-sampling was used to record when the mother interrupted the child's independent task in order to provide extra assistance. This was coded every minute and reported as happening never, once, or more than once. During snack time, free play, and clean up, mother's derogatory comments were also reported as either happening never, once, or more than once.	Three observation periods (twice at 2 years and once at 4 years) that lasted about 30 minutes each. At age 4, 90 coding intervals were obtained per child, and observations lasted about an hour.

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
9	Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73* (2), 483-495.	No	Not reported	Not reported	Coders were blind to hypotheses. At age 2, interrater reliability was done on 10%of sample and ranged from 82-91% in the first session and in the second session, kappa coefficients ranged from .79-1 At age 4, interrater reliability was obtained from 12 children with k=.74. Disagreements were resolved by review and discussion	Clinical setting	Social

				Findings
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
9	Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73* (2), 483-495.	Social: Toddler Play Observation Scale (play styles and interactions with peers)	1. Maternal derisiveness at age 2 was positively correlated with child's solitary-passive behavior at age 4. 2. Peer inhibition at age 2 was positively correlated with child's reticence at age 4, with maternal intrusiveness as a moderator. 3. Peer inhibition at age 2 was positively correlated with child's with child's reticence at age 4, with maternal derisiveness as a moderator.	Correlation Coefficient 1. 0.23 (p<.05) Beta 2. 0.29 (p<.01) 3. 0.25 (p<.01)

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
9	Rubin, K. H., Burgess, K. B., & Hastings, P. D. (2002). Stability and social-behavioral consequences of toddlers' inhibited temperament and parenting behaviors. *Child Development, 73* (2), 483-495.	Peer inhibition at age 2 was positively correlated with child's reticence at age 4, with maternal intrusiveness as a moderator. Peer inhibition at age 2 was positively correlated with child's with child's reticence at age 4, with maternal derisiveness as a moderator.	Not reported	Not reported	Not reported	The attrition rate was 19%.

		Study					
	Publication Information	**Name of Measure**	**Measure Purpose**	**Element(s) of Caregiver Interaction**	**Sample Size**	**Sample Characteristics**	**Special Needs**
#	Study citation	The name of the measure(s) examined in the study	Indicate the purpose of the measure (research, program improvement, monitoring, highstakes/QRIS)	The elements of caregiver interaction investigated (include if the element is part of the measure or added into the study by the authors)	Sample size used to investigate the measure in the study	Child age range, SES range, diversity of sample, etc.	Does the sample include children with special needs (Yes or No)
10	Smeekens, S., Riksen-Walraven, J. M., & Bakel, H. J. A. v. (2007). Multiple determinants of externalizing behavior in 5-year-olds: A longitudinal model. *Journal of Abnormal Child Psychology, 35* (3), 347-361. doi: 10.1007/s10802-006-9095-y	Not given (developed by authors)	Research	Parent interaction based on supportive presence or emotional support, respect for child's autonomy, limit setting, quality of instructions, and hostility	129 dyads	15 months and then follow-up at 28 months and 5 years	No
11	van Ijzendoorn, M. H. et al. (2007). Parental sensitivity and attachment in children with Autism Spectrum Disorder: Comparison with children with mental retardation, with language delays, and with typical development. *Child Development, 78* (2), 597-608.	The Emotional Availability Scale (EAS; adapted from the NICHD Study of Early Child Care Mother-Child Interaction Scales [NICHD, 1999]; Caregiver-Child Affect, Responsiveness, and Engagement Scales [Tamis-Lemonda et al., 2002]; and the Parent-Child Early Relational Assessment [Clark, 1999])	Research	Parental sensitivity (1 to 9, highly insensitive to highly insensitive); child involvement (child's ability to invite the parent and rated from 1 to 9, child highly uninvolved to highly involved with parent)	55 dyads	14-15 months and then follow-up at 4 years; 49 mother-child dyads and 6 father-child dyads	Yes (autism, language delay, mental retardation)

		& Measure Characteristics				
	Publication Information	**Dual Language Learner**	**Types of Observation**			
#	Study citation	Does the sample include children who are dual language learners (Yes or No)	Live observation vs. Video observation	Structured observation vs. Unstructured observation (Include a brief description of the observation methodology if appropriate)	Rating procedure (Explain coding scheme or scoring mechanism used to interpret observation)	Observation details (Length of observation and number of observations/time samples)
10	Smeekens, S., Riksen-Walraven, J. M., & Bakel, H. J. A. v. (2007). Multiple determinants of externalizing behavior in 5-year-olds: A longitudinal model. *Journal of Abnormal Child Psychology, 35* (3), 347-361. doi: 10.1007/s10802-006-9095-y	No	Video observation	Structured (given four instructional tasks lasting 3-4 minutes each)	The interactions were coded based on a 7-point scale (Erickson et al., 1985) and were based on emotional support, respect for the child's autonomy, effective structure and limit setting, quality of instructions, and hostility. The anchor scores on the Likert scale was not provided and therefore, the directionality of the scale was not stated.	Two observations (3 to 4 minutes)
11	van Ijzendoorn, M. H. et al. (2007). Parental sensitivity and attachment in children with Autism Spectrum Disorder: Comparison with children with mental retardation, with language delays, and with typical development. *Child Development, 78* (2), 597-608.	No	Live observation	Semi-structured (dyads were given a container of toys and asked to play with them)	The parent-child interaction was based on parent sensitivity scores ranged from 1 to 9, with 1 being highly insensitive to 9 being highly sensitive. The child involvement scores ranged from 1 to 9, with 1 being highly uninvolved with the parent to 9 being highly involved with parent.	10 minutes

			Rater and Setting Information				
	Publication Information		**Rater Characteristics**			**Setting**	**Measurement(s) of Child Outcome**
#	Study citation	Interview data (Is interview data used for scoring the caregiver-child interaction)	Rater Expertise (Rater is researcher, graduate student, trained data collector, etc.)	Training for Coding System (length of training to reach reliability, number of raters trained, etc.)	Rater Agreement Information (Include method of inter-rater agreement, frequency and any other reported statistics)	Setting Where Measure Is Used (Specify center-based program, home-based program, home, etc).	Domain(s) of child outcomes examined in study (social-emotional, language, cognitive, physical/motor, approaches to learning, etc).
10	Smeekens, S., Riksen-Walraven, J. M., & Bakel, H. J. A. v. (2007). Multiple determinants of externalizing behavior in 5-year-olds: A longitudinal model. *Journal of Abnormal Child Psychology, 35* (3), 347-361. doi: 10.1007/s10802-006-9095-y	No	Trained observer	Two raters at 15 months and four raters at 28 months	Interrated reliability 0.83 based on 18-19% of the cases	Home	Cognitive ability Infant-parent attachment Child temperament
11	van Ijzendoorn, M. H. et al. (2007). Parental sensitivity and attachment in children with Autism Spectrum Disorder: Comparison with children with mental retardation, with language delays, and with typical development. *Child Development, 78* (2), 597-608.	No	Not reported	Blind to child's diagnosis; 3 coders	Inter-rated reliability for sensitivity among the three coders were mean=0.76. Inter-rated reliability for child involvement among the three coders was mean=0.65	Home-based	Attachment

				Findings
	Publication Information	**Child Outcome Measure Operationalization**	**Outcomes**	**Strength of Association**
#	Study citation	How the child outcome measures were operationalized in the study.	Summary of study findings	Provide evidence on the strength of the associations described in the study (*r* , adjusted *r* , beta where possible)
10	Smeekens, S., Riksen-Walraven, J. M., & Bakel, H. J. A. v. (2007). Multiple determinants of externalizing behavior in 5-year-olds: A longitudinal model. *Journal of Abnormal Child Psychology, 35* (3), 347-361. doi: 10.1007/s10802-006-9095-y	Cognitive ability: Bayley Mental Scale of Infant Development Parent-infant attachment: Strange Situation Child temperament: Toddler Behavior Assessment Questionnaire	1. Negative interactions at 15 months was positively correlated with externalizing behaviors at age 5, with disorganized attachment as a mediator. 2. Effective guidance at 15 months was negative correlated with disorganized attachment which was positively related with externalizing behaviors at age 5, with disorganized attachment as a mediator. 3. Negative interactions as 15 months was positively correlated with externalizing behavior at age 5, with negative interactions at 28 months being a mediator.	1. Negative interactions to attachment mediator (.30, p<.01) and negative interactions to externalizing behaviors (.36, p<.01) 2. Effective guidance to attachment mediator (-.21, p<.05) and effective guidance to externalizing behavior is (.36, p<.01) 3. Negative interactions at 15 months to negative interactions at 28 months mediator (.53, p<.01) and negative interactions at 15 months to externalizing behavior at age 5 (.36, p<.01)
11	van Ijzendoorn, M. H. et al. (2007). Parental sensitivity and attachment in children with Autism Spectrum Disorder: Comparison with children with mental retardation, with language delays, and with typical development. *Child Development, 78* (2), 597-608.	Strange Situation and Richters Attachment Security Scale	For parents who had children without autism, parental sensitivity at 2 years predicted secure attachment of the child at 4 years.	r=.49

	Publication Information	**Mediators**	**Moderators**	**Contextual Factors**	**Other Factors**	**Comments**
#	Study citation	Mediators affecting the associations	Moderators affecting the associations	Contextual factors (home, family, child, care type or quality) affecting the associations	Describe other factors that may influence the association (can be mentioned in the study or spotted by the coder)	Additional notes as necessary.
10	Smeekens, S., Riksen-Walraven, J. M., & Bakel, H. J. A. v. (2007). Multiple determinants of externalizing behavior in 5-year-olds: A longitudinal model. *Journal of Abnormal Child Psychology, 35* (3), 347-361. doi: 10.1007/s10802-006-9095-y	1. Negative interactions at 15 months was positively correlated with externalizing behaviors at age 5, with disorganized attachment as a mediator. 2. Effective guidance at 15 months was negative correlated with disorganized attachment which was positively related with externalizing behaviors at age 5, with disorganized attachment as a mediator. 3. Negative interactions as 15 months was positively correlated with externalizing behavior at age 5, with negative interactions at 28 months being a mediator.	Not reported	Not reported	Not reported	The attrition rate was 10%.
11	van Ijzendoorn, M. H. et al. (2007). Parental sensitivity and attachment in children with Autism Spectrum Disorder: Comparison with children with mental retardation, with language delays, and with typical development. *Child Development, 78* (2), 597-608.	Not reported	Not reported	Not reported	Not reported	

APPENDIX B

Q-CCIIT MEASURES TABLES

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs														Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers											
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
TOTAL	26	11	5	13	20	34	28	9	27	21	12	11	10	23	7	8	14	10	16	13	13	9	0	26	29	28	28	30	30	21	6	8	2	29	18	10	5	5
Caregiver-Child Interaction Measures																																						
SUBTOTAL	8	11	5	13	2	16	11	0	11	8	4	3	2	8	4	5	4	6	3	1	13	9	0	12	14	12	11	12	13	7	5	5	2	14	5	1	5	0
Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES; Tamis-LeMonda, Rodriguez, Shannon, Ahuja, & Hannibal, 2002)		*		*		*	*		*	*								*			*			*	*	*	*	*	*	*			*				
Clinical Problem-Solving Procedure (Crowell & Feldman, 1988)	*		*	*		*	*		*					*								*						*	*	*						*	
Coding Interaction Behavioral Manual-Newborn (CIB; Feldman, 1998)		*		*	*	*															*	*		*	*	*							*				
Emotional Availability Scales (EAS, 3rd edition; Biringen, Robinson, & Emde, 1998; Biringen et al. 2000)	*	*		*		*			*					*		*		*			*	*		*	*	*	*	*	*	*	*	maternal depression, SAB, different cultural groups	*	*				
Face-to-Face Still Face (Adamson & Frick, 2003; Tronick, Als, Adamson, Wise, & Brazelton, 1978)	*		*			*			*	*	*	*			*							*			*	*							*				
Hair Combing Task (HCT; Lewis, 1999)		*		*		*	*			*		*		*				*			*	*		*	*										*	
Home Observation for Measurement of the Environment, Inventory for Families of Infants and Toddlers (IT-HOME; Caldwell & Bradley, 1984)	*				*	*	*		*					*							*			*	*	*	*	*					*				

Name of measure	Psychometric Information Available	Notes
TOTAL		
Caregiver-Child Interaction Measures		
SUBTOTAL		
Caregiver-Child Affect, Responsiveness, and Engagement Scale (C-CARES; Tamis-LeMonda, Rodriguez, Shannon, Ahuja, & Hannibal, 2002)	Significant associations between the parenting scales on the C-CARES and the child scales on the C-CARES at 8 and 16 months; weak predictive validity from 8 to 16 months (Shannon, Tamis-LeMonda & Cabrera, 2008).	
Clinical Problem-Solving Procedure (Crowell & Feldman, 1988)	Good reliability (Clark, Tluczek, & Gallagher, 2004)	
Coding Interaction Behavioral Manual-Newborn (CIB; Feldman, 1998)	Moderate predictive validity: Maternal sensitivity at birth, 3 months and 6 months is related to cognitive development at 12 months (r=.35). (Feldman, Eidelman & Rotenberg, 2004)	
Emotional Availability Scales (EAS, 3rd edition; Biringen, Robinson, & Emde, 1998; Biringen et al. 2000)	Shows good reliability and very good concurrent and predictive validity associated with attachment security and child development (Clark, Tluczek, & Gallagher, 2004) Inter-rater reliabilities in published studies are sometimes inadequate (for example, see Van (No Suggestions) et al. 2007). A variety of studies have shown the EA Scales are predictive of attachment (including Biringen et al. 2005). However, a more systematic examination of psychometrics is needed.	Coded for parental sensitivity, structuring, non-intrusiveness, non-hostility in parent-child interaction; children observed for responsiveness to parents. Little research using the EA Scales with low-income, diverse samples. One study that targeted a low-income sample noted that coding resulted in higher categorization of African American mothers into a "hostile" category (Little and Carter 2005), leading to questions about whether the EA Scales can be generalized across ethnic and racial groups.
Face-to-Face Still Face (Adamson & Frick, 2003; Tronick, Als, Adamson, Wise, & Brazelton, 1978)	Predictive validity: supportive engagement was negatively correlated with children's atypical ratings on the ITSEA; cognitive engagement was positively correlated with cognitive and social skills (Wachtel & Carter, 2008).	This measure focuses on reciprocity and achievement of mutual goals of mother-infant interactions: mutual orientation; exchange of affect; mutual disengagement. While this procedure could be used for clinical intervention, it is primarily a research tool.
Hair Combing Task (HCT; Lewis, 1999)	No psychometric information is available in the literature we reviewed about the relation to child outcomes.	This measure was designed for use primarily with African American families. Given this, and the lack of psychometric information, we do not recommend considering this measure for the project. Captures "synchronous emotional matching." Three distinct proximity groupings have been identified (across SES): Close Physical Proximity, Moderate, and Functional. Look at Miron, Lewis & Zeanah (2009) chapter for more information.
Home Observation for Measurement of the Environment, Inventory for Families of Infants and Toddlers (IT-HOME; Caldwell & Bradley, 1984)	Good concurrent and predictive validity with Stanford-Binet and Illinois Test of Psycholinguistic Abilities at 3 years (Clark, Tluczek, & Gallagher, 2004) Also some relations with PPVT, CBCL, classroom behavior, and school-based standardized assessment	The IT-HOME interview lasts about an hour and has to be conducted in the home with the child awake and present.

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs														Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers											
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Indicator of Parent Child Interaction (IPCI; Baggett et al. 2006)		*		*		*	*		*	*						*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	
Insightfulness Assessment (IA; Koren-Karie et al., 2002; Oppenheim, Koren-Karie & Sagi, 2001; Oppenheim & Koren-Karie, 2002)		*		*		*									*							*		*	*	*	*	*	*			*				
Maternal Behavior Rating Scale (MBRS; Mahoney, Finger, & Powell, 1985)		*		*		*			*	*				*				*			*				*		*	*	*		*				*		

Name of measure	Psychometric Information Available	Notes
Indicator of Parent Child Interaction (IPCI; Baggett et al. 2006)	Acceptable Inter-rater reliability and stability (test-retest) was demonstrated. Support was shown for concurrent validity of IPCI parent facilitating behavior through expected significant correlations with the HOME and the AAPI-2. Support was shown for concurrent validity of the IPCI parent interrupting items through expected significant correlations with the HOME, AAPI-2, CESD The IPCI showed sensitivity to parents who differ in quality of parent styles and children who differ in social-emotional functioning IPCI Parent and Child Behaviors are significantly correlated in the expected directions. IPCI Child Behaviors (positive engagement and reactivity/stress) are differentiated by IPCI Parent Support Behavior (F=20.57, p<.001; F=14.28, p<.001, respectively).	The IPCI has the following features: (1) focus is on key parent and child behaviors that signal or indicate quality of parent-child interaction and that are predictive of social-emotional outcomes in young children, (2) focus is on activities that typically occur in authentic environments where parental caregivers and very young children interact such as in homes with parents or other caregivers or in child care settings, (3) it can be administered within 10 minutes by a variety of practitioners that typically provide early intervention services (e.g., Part C Early Intervention staff, Early Head Start staff, nurses, counselors, and social workers), (4) it is designed for frequently repeated administration in family homes or center-based settings; and (5) reports can be generated automatically to guide intervention decision-making. In such extreme and rare cases when video recording can not be done, IPCI activities can be scored live. A significant disadvantage is that video can not then be used for providing positive support interventions.
Insightfulness Assessment (IA; Koren-Karie et al., 2002; Oppenheim, Koren-Karie & Sagi, 2001; Oppenheim & Koren-Karie, 2002)	The four classifications (Positively Insightful, One-Sided, Disengaged, and Mixed) differentially predict Attachment classifications concurrently and the classifications are independent of parental educational level (Oppenheim & Koren-Karie, 2002). Change in parental classification is associated with improvement in preschoolers' behavior following a therapeutic treatment program (Oppenheim, Goldsmith, & Koren-Karie, in press).	Parent-child interactions are videotaped in three different contexts. Parents review the videotapes with an interviewer and the interview transcripts are rated on 10 scales and classified into four categories (Positive Insightful, One-Sided, Disengaged, and Mixed).
Maternal Behavior Rating Scale (MBRS; Mahoney, Finger, & Powell, 1985)	The two factors of the MBRS (Child Orientedness/Pleasure and Control) account for 20% of the variance in children's cognitive development (Farran, Clark & Ray, 1990).	The MBRS was originally developed for use with children diagnosed with disabilities (mental retardation). The MBRS rates 18 maternal behaviors on a 5-point Likert scale. There is a 7-item short-form version. Both the 18-item and 7-item versions contain two factors: Child Orientedness/Pleasure and Control (Mahoney et al., 1985; Mahoney, Powell, & Finger, 1986). Boyce et al. (1996) examined the MBRS along with the Mother-Child Rating Scale (Crawley & Spiker, 1982) and the Multi-Pass System (Marfo, 1991) and found several parent factors (parent affect, responsiveness, sensitivity, directiveness, and topic control) as well as several child factors (play maturity, emotional responsiveness, compliance, and topic control). There was a moderate, positive correlation between maternal responsiveness and child developmental level and a negative correlation between maternal directiveness and child developmental level. The child factors did not predict to child outcomes for children with disabilities (see Kelly & Barnard, 2000). In Mahoney, Finger, & Powell, 1985, a factor analysis in a sample of children with disabilities produced three factors: child orientedness/pleasure, quanitity of stimulation, and control. The short form (7-items) was found to have two subscales that they determined were generally representative of the child orientedness and control factors of the original scale. Boyce et al., 1996 conducted a factor analysis with 150 dyads, and found that 12 items loaded onto three factors: maternal affect, acheivement orientation, and responsiveness. Within responsiveness, directiveness and pace were associated negatively with the total so that subscale was split into two subscales: responsivness and directiveness. Responsivness was related to child outcomes (see Mahoney et al., 1998)

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs													Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Nursing Child Assessment Satellite Training, Teaching and Feeding Scales (NCAST; Barnard, 1979; Kelly & Barnard, 2000)	*		*			*	*				*										*			*	*	*	*	*			*				*		
Parent-Child Early Relational Assessment (PCERA; Clark, 1985)		*	*	*		*	*		*							*	*	*			*			*	*	*	*	*				*	*			*		
Parent-Child Interaction Rating Scale (PCIRS; Sossinske et al., 2004)	*			*		*	*		*		*	*	*	*	*	*	*				*							*			*		*					
Parent-Infant/Toddler Interaction Coding System (PICS; Dodici & Draper, 2001)		*	*			*	*			*			*	*								*		*	*	*	*	*				*						
Parenting Interactions with Children: Checklist of Observations Linked to Outcomes (PICCOLO; Roggman et al. 2007)	*	*		*		*	*		*	*				*					*		*				*	*	*	*	*	*	*	*			*				
Pediatric Infant Parent Exam (PIPE; Fiese et al., 2001)	*			*						*	*								*			*			*	*						LBW	*						

Name of measure	Psychometric Information Available	Notes
Nursing Child Assessment Satellite Training, Teaching and Feeding Scales (NCAST; Barnard, 1979; Kelly & Barnard, 2000)	Good reliability; good validity Discriminates high-risk from normative dyads Parent total score has predictive validity for child IQ at 3-5 years (Clark, Tluczek, & Gallagher, 2004). Teaching Scale score (measuring maternal and infant behaviors during a teaching interaction) at 3 months correlated positively with secure attachment at 12 months (Barnard et al., 1989). The Teaching Scale score also correlated positively with mental development and language (Morisset, 1994). See also Hauser-Cram et al., 2001 However, very few of the subscales had internal consistency.	Half of the items in each of the Teaching and Feeding scales tap into the dyad's capacity for reciprocity and contingent responsiveness. The teaching scales are more strongly correlated with cognitive development than the feeding scales. ECLS-B used a version of the NCAST for the 9-month data collection and found that several subscales had low alphas [(for example the sensitivity to cues scales had an alpha of .12 (National Center for Education Statistics, 2005)].
Parent-Child Early Relational Assessment (PCERA; Clark, 1985)	High interrater reliability Good face validity Good construct validity Discriminates high-risk from normative dyads (Clark, Tluczek, & Gallagher, 2004)	Attention skills; Mutuality/reciprocity; Disorganization and tension (in the dyadic subscale)
Parent-Child Interaction Rating Scale (PCIRS; Sossinske et al., 2004)	These factors, supportive engagement (mean factor loading = 0.72; Cronbach's alpha = 0.92), cognitive engagement (mean factor loading = 0.69; Cronbach's alpha = 0.76) and disengaged interaction (mean factor loading = 0.78; Cronbach's alpha = 0.72) accounted for 72 percent of the variance in the 11 parent and four dyadic codes that were rated. Wachtel, K., & Carter, A. S. (2008). Reaction to diagnosis and parenting styles among mothers of young children with ASDs. Autism, 12(5), 575–594.	This parent–child interaction coding was adapted from the NICHD Study of Early Child Care Mother–Child Interaction Rating Scales (National Institute of Child Health Early Child Care Research Network, 1999), the Caregiver–Child Affect, Responsiveness, and Engagement Scales (Tamis- Lemonda et al., 2002), the Emotional Availability Scales (Biringen et al., 2000) and the Parent–Child Early Relational Assessment (Clark, 1999). Full age range for this measure is not reported.
Parent-Infant/Toddler Interaction Coding System (PICS; Dodici & Draper, 2001)	The PICS is correlated with child language and cognitive outcomes (PPVT and WJ-R; r's =.58 and .50, respectively) (Dodici et al., 2003).	
Parenting Interactions with Children: Checklist of Observations Linked to Outcomes (PICCOLO; Roggman et al. 2007)	Inter-rater agreement across items = 74% 3 raters per clip 2 of 3 raters agree 91% of the time Internal consistency across domains Cronbach's alpha = .73 - .81 Some variation across ethnic/culture groups Good construct validity Predicts cognitive, social and language outcomes at 36 months of age (Roggman et al., 2007).	The PICCOLO was developed using video recordings of the Three-bag Task from the EHSRE as a system to code parent behavior during parent-child interaction. However, you can also use the coding scheme "live." It codes parent behavior in four dimensions: Affection & Affect; Responsiveness; Encouragement of Autonomy; and Teaching and Talking. Difficulty establishing inter-rater reliability (currently using a binary scale). There is potential for variation in scores and reliability across ethnic groups.
Pediatric Infant Parent Exam (PIPE; Fiese et al., 2001)	PIPE scores fully mediate the relationship between neonatal risk and cognitive outcomes (PIPE predicts Bayley scores) (Poehlmann & Fiese, 2001)	The PIPE was originally developed as a screening tool to be used in primary care settings. The Pediatric Infant Parent Exam (PIPE) is different from the Partners in Parenting Education (PIPE) curriculum development by Robert Emde.

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs														Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
"Three bag" play session (NICHD Early Child Care Research Network, 1999)		*		*		*	*		*						*	*	*				*	*			*	*	*	*	*	*	*			*			

Name of measure	Psychometric Information Available	Notes
"Three bag" play session (NICHD Early Child Care Research Network, 1999)	Predictive validity: maternal intrusiveness at 15 months predicted child negativity at 25 months; maternal warmth at 15 months predicted child engagement and dyadic mutuality at 25 months (Ispa, Fine et al., 2004). Children with two supportive parents had the best language and math outcomes at age 5 and children with two unsupportive parents had the worst outcomes; effects of parent support are additive (Martin, Ryan & Brooks-Gunn, 2007).	Three child factors are also included: child engagement of parent, sustained attention, child negativity toward parent.

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs													Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Child Care Quality Measures																																				
SUBTOTAL	**18**	**0**	**0**	**0**	**18**	**18**	**17**	**9**	**16**	**13**	**8**	**8**	**8**	**15**	**3**	**3**	**10**	**4**	**13**	**12**	**0**	**0**	**0**	**14**	**15**	**16**	**17**	**18**	**17**	**14**	**1**	**3**	**0**	**15**	**13**	**9**	**0**	**5**
Assessment Profile for Early Childhood Programs (APECP; Abbott-Shim, Neel, & Sibley, 2001)	*				*	*	*	*	*	*	*		*	*					*					*	*	*	*	*	*	*				*	*			
Assessment Profile for Family Child Care Homes (APFCCH)	*				*	*	*	*	*	*	*		*	*						*				*	*	*	*	*	*	*				*	*			
The Child Care Assessment Tool for Relatives (CCAT-R; Porter, Rice, & Rivera, 2006)	*				*	*	*		*		*			*	*		*	*		*				*	*	*	*	*	*	*				*				
Child Care Home Inventories (CC-HOME; Bradley, Caldwell, & Corwyn, 2003)	*				*	*	*							*						*				*	*	*	*	*	*	*				*	*	*		
Child Caregiver Interaction Scale (CCIS; Carl, 2007)	*				*	*	*	*	*	*				*			*	*	*	*				*	*	*	*	*	*	*		*		*	*			*
Child-Caregiver Observation System (C-COS; Boller, Sprachman, & the Early Head Start Research Consortium, 1998)	*				*	*	*		*	*								*	*	*						*	*	*	*	*				*	*			

Name of measure	Psychometric Information Available	Notes
Child Care Quality Measures		
SUBTOTAL		
Assessment Profile for Early Childhood Programs (APECP; Abbott-Shim, Neel, & Sibley, 2001)	Inter-rater reliability is consistently reported with a mean of 93 to 95% agreement with a range of 83 to 99% agreement (Abbott-Shim, Lambert, & McCarty, 2000). Internal consistency is strong (Abbott-Shim, Neel & Sibley, 1992). Criterion validity was established by examining the relationship of the Assessment Profile: Research Edition I to the Early Childhood Environment Rating Scale (ECERS) (Harms & Clifford, 1980). In these criterion related validity studies, Wilkes (1989) found a significant correlation (r = .64, p < .001), and Abbott-Shim (1991) found a significant correlation (r = .74, p = .001). Construct validity has been established (Abbott-Shim, Lambert, & McCarty, 2000).	This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices
Assessment Profile for Family Child Care Homes (APFCCH)	This family child care home version of the APECP measure was created, but the authors have never published psychometric information on this version.	This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices
The Child Care Assessment Tool for Relatives (CCAT-R; Porter, Rice, & Rivera, 2006)	Concurrent validity: No formal concurrent validity test; three items from the Family Day Care Rating Scale correspond with CCAT-R rating. Predictive validity has recently been tested in a longitudinal study in Hawaii but results are not yet available.	This measure addresses the following dimensions of quality: Health, Safety, & Nutrition Provider Qualifications & Professional Development Communication with Families/Family Involvement Community Resources Business Practices
Child Care Home Inventories (CC-HOME; Bradley, Caldwell, & Corwyn, 2003)	Concurrent: Scores show moderate relationships with the sensitivity and stimulation composites from the Observation Record of the Caregiving Environment (ORCE).	This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition
Child Caregiver Interaction Scale (CCIS; Carl, 2007)	Concurrent: CCIS average is correlated with the age/setting appropriate overall ERS average. Predictive: CCIS scores predicted caregiver characteristics, education of the provider, and STAR level of the child care facility.	The CCIS is designed to be used in settings with multi-age groupings. First developed as part of the Keystone STARS Quality Study. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Communication with Families/Family Involvement Business Practices
Child-Caregiver Observation System (C-COS; Boller, Sprachman, & the Early Head Start Research Consortium, 1998)	Concurrent: The construct of caregiver talk from the C-COS correlates with the ITERS-R and the CIS at 24 months; environmental quality correlates positively with C-COS language interaction items (Phillips et al., 2003).	This measure uses time-sampling over a 2-hour observation. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Cognitive Stimulation

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs													Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Child Development Program Evaluation Scale (CDPES; Fiene, 1984)	*				*	*	*		*										*					*	*	*	*	*	*	*				*	*		
Child/Home Early Language & Literacy Observation (CHELLO; Neuman, Dwyer, & Koh, 2007)	*				*	*	*			*				*			*			*					*	*	*	*	*	*	*				*	*	*	
Caregiver (Adult) Interaction Scale (CIS; Arnett, 1989)	*				*	*		*	*	*				*	*		*		*	*					*	*	*	*	*	*	*				*			
Classroom Assessment Scoring System: Toddler Version (CLASS Toddler; Pianta, La Paro, & Hamre, 2009)	*				*	*	*		*	*	*	*	*	*		*	*	*	*									*	*	*				*	*	*		*
Child Observation Form and Scale (COFAS; Fiene, 1984)	*				*	*	*		*	*				*		*	*		*					*	*	*	*	*	*	*				*	*	*		

Name of measure	Psychometric Information Available	Notes
Child Development Program Evaluation Scale (CDPES; Fiene, 1984)	Concurrent: Total score is correlated with ECERS total score. Predictive: Predicts the overall compliance of child day care centers with state regulations in four states (Fiene, 1984).	The Caregiver Observation Form and Scale (COFAS) is used in conjunction with the CDPES to assess the behaviors of caregivers while interacting with children in a classroom setting. (see later COFAS entry.) This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices
Child/Home Early Language & Literacy Observation (CHELLO; Neuman, Dwyer, & Koh, 2007)	Concurrent: Total score correlates significantly with children's language growth, phonological skills, and ability to do language-oriented math problems. No separate psychometrics for the positive adult-child interactions items (4 items) are reported.	The CHELLO is complementary to the ELLCO, but for use in mixed-age home-based care settings. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices
Caregiver (Adult) Interaction Scale (CIS; Arnett, 1989)	Concurrent: Weak correlations between CIS and other measures of child care quality (Layzer et al., 1993).	This quality measure focuses exclusively on Adult-Child Interactions.
Classroom Assessment Scoring System: Toddler Version (CLASS Toddler; Pianta, La Paro, & Hamre, 2009)	Good internal consistency (Cronbach's alpha=.88) Construct validity has also been established (Thomason & LaParo, 2009). Further validity data is forthcoming from pilot data.	A separate infant version of the CLASS is under development. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Developmentally Appropriate Learning Activities Cognitive Stimulation Schedules and Routines
Child Observation Form and Scale (COFAS; Fiene, 1984)	Inter-rater reliability showed a kappa of .81 Internal consistency is good (Cronbach's Alpha = .89) Concurrent Validity was assessed by comparing the COFAS and the ECERS total scores ($r = .67$; $p < .01$).	The COFAS was developed to complement the Child Development Program Evaluation Scale (CDPES) in order to assess interactions between teachers and children in child care settings. COFAS uses a time-sampling method of observation and scoring. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Developmentally Appropriate Learning Activities Cognitive Stimulation

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs													Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Early Childhood Environment Rating Scale – Revised (ECERS-R; Harms, Clifford, & Cryer, 1998)	*				*	*	*	*	*	*	*	*	*	*			*		*									*	*	*		*		*	*	*	*	*
Family Child Care Environment Rating Scale – Revised Edition (FCCERS-R; Harms, Cryer, & Clifford, 2007)	*				*	*	*	*	*	*	*	*	*	*			*			*				*	*	*	*	*	*	*			*	*	*		*
Infant and Toddler Environment Rating Scale – Revised (ITERS-R; Harms, Cryer, & Clifford, 2003)	*				*	*	*	*	*	*	*	*	*	*			*		*					*	*	*	*	*				*					
Missouri Infant/Toddler Responsive Caregiving Checklist (formally known as MO QRS Infant/Toddler Intentional Teaching Checklist; Thornburg, 2009)	*				*	*	*	*	*	*	*	*	*	*					*	*				*	*	*	*	*	*								*
Observational Record of the Caregiving Environment (ORCE)	*				*	*	*		*			*			*	*	*		*	*					*	*	*	*	*	*			*				

Name of measure	Psychometric Information Available	Notes
Early Childhood Environment Rating Scale – Revised (ECERS-R; Harms, Clifford, & Cryer, 1998)	The ECERS-R has good reliability and validity overall and for several subscales. However, the reliability and validity of positive adult-child interactions is not reported separately.	The ECERS-R is appropriate for use in classrooms for children ages 2.5 to 5 years. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Provider Qualifications & Professional Development Communication with Families/Family Involvement
Family Child Care Environment Rating Scale – Revised Edition (FCCERS-R; Harms, Cryer, & Clifford, 2007)	Very good internal consistency; the interaction scale has a kappa of .84. Predictive: Direct evidence is not provided; environmental quality is predictive of child outcomes (Harms, Cryer & Clifford, 2007). The authors recommend that the subscale scores not be used in research, though they are "quite useful both for practitioners and for those providing technical assistance in the field" (Harms, Cryer & Clifford, 2007, p. 5).	This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices
Infant and Toddler Environment Rating Scale – Revised (ITERS-R; Harms, Cryer, & Clifford, 2003)	Concurrent: ITERS scores are correlated with measures of quality such as child-staff ratios, group size, and staff education levels (Cryer et al., 1999; Phillipsen et al., 1998). Some authors have found only one factor for ITERS (see Bisceglia, Perlman, Schaack, & Jenkins (2009) and Baby Faces data (Memo to Rachel Chazan Cohen from Randall Blair, Andrew McGuirk, and Nikki Aikens, 11/25/09) Predictive: Children's development is predicted by the ITERS (Burchinal et al., 1996; Peisner-Feinberg et al., 1999). There are only 4 interaction items and psychometrics on them are not reported separately.	The ITERS-R is a global measure of quality useful for centers serving children birth through 30 months. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition Schedules and Routines Provider Qualifications & Professional Development Communication with Families/Family Involvement Business Practices **A Spanish language version is available.
Missouri Infant/Toddler Responsive Caregiving Checklist (formally known as MO QRS Infant/Toddler Intentional Teaching Checklist; Thornburg, 2009)	Using a sample size of 99 with the 2009 version of the checklist: ITERS-R mean = 5.35, range 2.82-6.59 IT checklist mean = 7.62 range 1.5-10.0 (scores can range from 0-10) Coefficient alpha for IT checklist = .85 Correlation between ITERS-R and IT checklist r = .69	This measure was included as a recommendation from TWG member Kathy Thornburg. It is designed to be used in conjunction with the ITERS-R or FCCERS-R.
Observational Record of the Caregiving Environment (ORCE)	The psychometrics of the ORCE are particular to each wave of NICHD data. The qualitative scales have more to do with interactions than do the quantitative scales. The developers of the ORCE caution that unless a person has access to the NICHD training tapes, it would be difficult to use. There is no plan to release the tapes due to confidentiality issues. The developers note that without proper training reliability/validity of the ORCE in future use is not known.	The ORCE was designed as part of the NICHD study to capture quality for children ages 6 to 54 months across a wide range of non-parental care settings. This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Cognitive Stimulation

Name of measure	Type of Observation					Caregiver-Child Interaction Constructs													Type of Setting					Age Range							Populations			Purpose				
						Positive								Neutral	Negative										Infants			Toddlers										
	Live	Video	Structured	Semi-structured	Unstructured	Sensitivity/Responsiveness	Language & Cognitive Stimulation	Support for Peer Interaction	Positive Regard/Warmth	Positive Affect	Reciprocity	Mutuality	Joint Attention	Behavior Regulatory Style/Guidance	Detachment	Intrusiveness	Negative Regard	Negative Affect	Center-based program	Home-based program	Home	Clinical	Not Specified	0-6 months	6-12 months	12-18 months	18-24 months	24-30 months	30 - 36 months	Over 36 months	DLL	Children with disabilities	Other (please specify)	Research	Individual program improvement/Professional Development	Monitoring/Evaluation	Clinical	High-stakes/ QRIS
Program for Infant/Toddler Care Program Assessment Rating Scale (PITC PARS; Mangione, in press)	*				*	*	*		*	*		*	*	*					*	*				*	*	*	*	*	*				*	*	*		
Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST; Goodson, Layzer, & Layzer, 2005)	*				*	*	*	*	*			*		*					*	*				*	*	*	*	*	*	*	*		*	*	*		

Name of measure	Psychometric Information Available	Notes
Program for Infant/Toddler Care Program Assessment Rating Scale (PITC PARS; Mangione, in press)	Concurrent: The PITC PARS is correlated with the ERS and the Arnett Scale of Caregiving Behavior. Correlations between the PITC PARS and the ERS have been high, ranging from 0.81 on the FDCRS to 0.88 on the ECERS-R. Correlations between the PITC PARS Subscale I and the Arnett Scale of Caregiving Behavior have been moderately high, ranging from 0.60 on the Arnett Warmth subscale to –0.70 on the Arnett Criticalness subscale (Mangione, et al, 2006). Predictive: PITC onsite training resulted in improvements in the quality of teachers' interactions with infants and toddlers (Mangione, 2003). Rating a classroom rather than individual teachers proved challenging for obtaining inter-rater reliability and for distilling the effects of training over time. For these reasons, it is recommended that Subscale I (caregiver-child interactions) be completed for individual teachers, to capture each teacher's strengths when interacting with children.	This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Health, Safety, & Nutrition Schedules and Routines Communication with Families/Family Involvement
Quality of Early Childhood Care Settings: Caregiver Rating Scale (QUEST; Goodson, Layzer, & Layzer, 2005)	No information is available to date on the validity of the QUEST measure, although two studies have used the QUEST alongside the ECERS and the FDCERS, which will be the basis for validity analyses.	The rating scale focuses on caregiver warmth/responsiveness and on caregiver support for the child's development in four important areas—cognitive development, especially language development and early literacy; emotional development; social development; and physical development" (Goodson, Layzer, & Layzer, 2005, p. 5-1). This measure addresses the following dimensions of quality: Positive Adult-Child Interactions Physical Environment Developmentally Appropriate Learning Activities Cognitive Stimulation Health, Safety, & Nutrition

APPENDIX C

Q-CCIIT REFERENCE LIST

Q- CCIIT REFERENCE LIST

This reference list represents all of the articles, handbook chapters, and other documents that were examined as part of the literature review task for the Measurement Development: Quality of Caregiver-Child Interaction for Infants and Toddlers (Q-CCIIT) project.

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